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EVERY-DAY SURGERY IN SMALL-ANIMAL PRACTICE*

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When your Secretary invited me to read a short paper before this Society, he suggested that the subject should be one connected with small-animal practice. Small animal work to-day forms a part of every practice; in fact, amongst those practising in towns it is often the largest part. It is for this reason that I propose to introduce the subject of surgery. I find that in about 20 per cent. of my cases some form of surgical interference is necessary, and thus it is the duty of all who profess to treat dogs and cats to be good operators.

Surgical technique has made such strides during recent years that major operations can now be tackled with every confidence, for a high degree of success can be obtained. This opinion is based on the experience gained in a small-animal clinic in which more than a thousand operations are carried out annually.

The following are some of the major operations which one may be called upon to perform at any time, and it is upon these that I am basing my remarks:—

1.—Operations upon healthy animals.
- (*a*) Ovaro-hysterectomy in the kitten and puppy.
- (*b*) Castration of the cryptorchid cat.
- (*c*) Operation for inguinal and scrotal hernia.

2.—Operations upon diseased animals.
- (*a*) Metrectomy for pyometritis in the bitch.
- (*b*) Cæsarian section and metrectomy for the relief of dystokia.
- (*c*) Cystotomy for vesical calculus in the bitch.
- (*d*) Enterotomy for intestinal obstruction by a foreign body.

In the first group, 100 per cent. success is the only permissible aim, and it is by no means an impossible one. My experience is that any deaths which occur are due to the anæsthetic rather than to the operation itself. It is for this reason that I have for some time been concerning myself with anæsthetics.

In group two, operations upon diseased animals, I have chosen these examples because they are conditions in which by surgical interference one can effect a radical cure in an otherwise fatal disease. This statement will be criticised with regard to vesical calculus in the bitch. It is agreed that in some of these cases further calculi will form later in life.

The first essential to success is that operative interference shall be carried out early. Toxæmia is the surgeon's greatest enemy, and for this reason the operation should be performed as soon as a diagnosis is arrived at. It is usual for the owner to present such an animal after it has been obviously ill for a matter of 48 hours or so. At this time the chances of successful surgical interference are high. Procrastination has nothing to commend it.

One might, at this point, refer to the whelping bitch, for there is no condition in which the so-called waiting policy is more likely to be adopted. It is my opinion that far greater harm results from waiting than from early interference.

In the bitch if the cervix is dilated and powerful labour has been present for a few hours, then the birth of a fœtus is due. If it does not quickly occur, interference is indicated. It is highly probable that the case is one of "big fœtus," and if it is promptly delivered by forceps it is quite likely that delivery of the remaining fœtuses will occur normally. If however, such a case is left 24 hours or more, the uterus becomes inert from exhaustion, putrefaction commences, and in the case of multiple fœtuses, the only rational treatment is prompt metrectomy.

The question frequently arises, which operation shall be performed, cæsarian section or metrectomy? A hard and fast rule cannot be laid down. It is generally accepted that the results following Porro's operation are better than those from cæsarian section. This is chiefly due to the fact that operation is resorted to after parturition has been in progress 36 to even 48 hours, by which time the fœtuses are dead and putrefaction is advanced. If, in cases of complete inertia, cæsarian section is carried out whilst the uterine contents are viable, that is up to approximately twelve hours of commencing parturition, success will be high, and, in addition, the bitch's breeding powers will be conserved.

It is not proposed, in this paper, to refer to the subjects of diagnosis or anæsthesia, for I have, in previous papers, published my views upon them.

* Paper presented to the Lancashire Division, N.V.M.A., at Liverpool, October 26th, 1933.

DEPT. OF VET. MEDICINE

It is often stated that in private practice one has not the facilities for carrying out abdominal surgery. With this I disagree; in fact, the necessity for surgical interference is so frequently encountered that I fail to see how one's practice can be satisfactorily carried out without it.

The technique I am about to describe requires no elaborate apparatus, and is available to everyone.

The ideal surgical team comprises three persons:—

1. The operator.
2. His assistant, whose duty it is to swab, prepare ligatures and sutures, and hold organs and instruments at the operator's direction.
3. The anæsthetist.

In many cases lack of assistance will mean that the services of No. 2 must be dispensed with. In this case, the operator should, immediately before commencing operation, so arrange instruments, swabs, ligature and suture material, that they are immediately to hand as required, and thus reduce delay to a minimum.

A skilled anæsthetist is the ideal; but it is not difficult to train an intelligent kennel-attendant to become reasonably efficient in administering the anæsthetic.

It has already been mentioned that the first factor towards success is early interference. The second is speed. From the commencement to the end the the operator should direct his whole attention to the matter in hand without relaxing, and work as quickly as he can compatible with accuracy. It must not be forgotten that the patient is being subjected to progressive anæsthetic intoxication, shock and circulatory depression with loss of body heat.

Very few operations should take more than half an hour in their performance. Ovarohysterectomy in the kitten is carried out in ten minutes by a moderately fast operator, whilst metrectomy for pyometritis or dystokia takes 20 to 30 minutes.

Preparation.—The operation site should be clipped and shaved, and the area so treated, large. In the case of mid-line incisions the prepared area should comprise the whole of the belly, including the flanks, the inner aspects of the thighs and the perineum. Dirt and epithelial débris should be removed by washing with soap and hot water. After removing excess water the area is treated with surgical spirit, allowed to dry, and finally painted with liquor iodi mitis. (It is questionable whether or not iodine has any advantage over spirit. Its brown colour certainly gives a sense of security. In the young cat the mere painting of the skin with iodine solution may give rise to some superficial exfoliation, whilst applied to the scrotum of the dog it can cause a painful inflammation.)

Cloths or towels should invariably be used. They should be of sufficient size to cover completely the animal's body and limbs with the exception of the head. They are sterilised by boiling and fixed around the site of incision with towel clips.

Rubber gloves may be sterilised by boiling. It is our practice to fold them and wrap tightly in a calico cloth. This prevents boiling water entering the fingers.

The hands are cleansed by scrubbing with soap and hot water, and left lathered to facilitate the putting on of gloves.

Instruments and cloths are sterilised in an ample-sized "fish-kettle" steriliser. For small operations swabs may be included. For operations in which a fairly large quantity of sterile wool is required for wrapping around organs, i.e., cæsarian section, it is best to use a second steriliser for it. As much water as possible is poured off instruments and swabs immediately before commencing.

Instruments.—The following is a list of those in general use:—

Two scalpels, Bard-Parker type, blades Nos. 10 and 21.
Two pairs straight scissors, one blunt and one sharp pointed.
Three pairs dressing forceps.
Four to six pairs Spencer-Wells artery forceps.
One grooved director.
Reels of silk:—
  For large dogs, Nos. 2, 5 and 7.
  For small dogs, Nos. 1, 2 and 4.
  For cats, Nos. 0, 1 and 2.
Needles, half-curved:—
  For large dogs, Nos. 8, 6 and 4.
  For small dogs and cats, Nos. 12 and 10.
Milliners' needles, 1½-in. and 2½-in., for operations on bowel, uterus and bladder.
Catgut, No. 0, for operations on bladder.
Two pairs of bowel forceps (jaws covered with rubber tubing), for operations on stomach, bowel and uterus.
Set of small trocars and canulæ, for operations on bladder.
Four to six towel clips.
Four to six ample-sized calico cloths.

The Incision.—It is important that the incision shall be correctly placed, that is, in that part of the abdominal wall nearest to the organ which is to be interfered with. Its size should be such that the organ can be drawn out of the abdomen without undue traction, and no larger. The necessity of having considerably to enlarge an incision due to its faulty position, is, to my mind, bad surgery. A small incision makes for greater speed in completion of the operation, it also greatly reduces the post-operative risk.

In the case of mid-line incisions it is customary to incise the rectus abdominis muscle a quarter of an inch or so to the side of the linea alba. The skin and muscle layers should be incised down to the peritoneum along the whole extent of the wound, and hæmorrhage

arrested. The peritoneum having been freely exposed, is picked up tent-fashion, about the centre, and punctured, taking care to avoid injuring a distended uterus or bladder which may lie beneath. A grooved director is inserted and the opening enlarged in either direction. Care should be taken that the muscle incision does not under-run the skin, for it may be found difficult to close.

Whenever possible, instruments only should be introduced into the abdominal cavity. When the fingers must be used care should be taken not to introduce any disinfectants which may have been used on the hands. If the fingers have been rinsed in solutions of phenol, cresol or mercuric chloride, they should be first wiped in boiled wool.

Closing the Abdomen.—In view of the enormous variation in the size of our patients, it is difficult to specify the size of suture material to be used, the amount of tissue to be included in the sutures, or the distance between them. I think that two common faults are: to place sutures too close together, and to include too little tissue in them.

My practice is to close the wound with three layers; the first includes the rectus muscle and the peritoneum, the second serves to draw together the subcutaneous fat and connective tissue, and the third the skin.

The first layer is the most important, for it is by it that hernia of the abdominal contents is prevented. The silk adopted in dogs varies from No. 2 to 7, sutures are placed at ¼-in. to ⅜-in. apart, and from ⅛-in. to ⅜-in. of tissue included in them.

The second layer comprises a few sutures, ½-in. or so apart, of No. 1 or 2 silk, whilst the skin sutures resemble those of the first layer, care being taken that the knot is to the side of, rather than on top of the wound.

No antiseptics are applied to the skin after suturing.

After Treatment.—There is none, as far as the wound is concerned. More than 90 per cent. of surgical wounds heal by first intention. The sutures are removed on the seventh to tenth day. In the case of abdominal operations such as metrectomy or cæsarian section, a supporting bandage is applied and changed daily.

Cats should not be bandaged.

OVARO-HYSTERECTOMY IN THE KITTEN, FLANK OPERATION

The most suitable age to operate is on animals from three to five months. In older and mature cats several difficulties are encountered. Large amounts of subcutaneous and retro-peritoneal fat tend to obscure the incision, whilst development of the uterus necessitates the use of ligatures.

The flank operation was popularised in my department at the College by my predecessor—Professor A. R. Smythe—who substituted it for the mid-line operation, and it is a technique very similar to his which I adopt.

The site of incision must be carefully selected. (See Figs. 1 and 2.) If placed too far forward

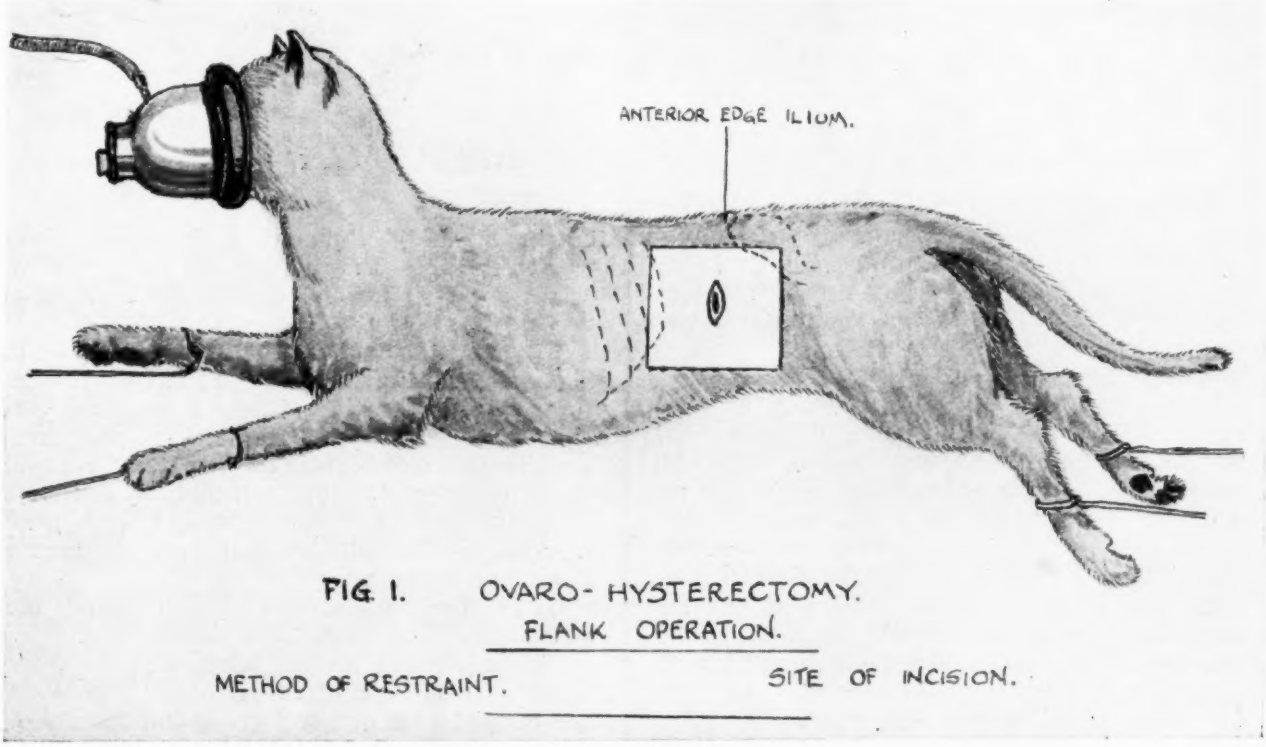


FIG. 1. OVARO-HYSTERECTOMY.
FLANK OPERATION.

METHOD OF RESTRAINT. SITE OF INCISION.

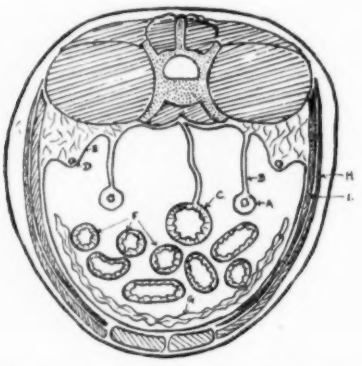


FIG. 2. A. SECTION OF ABDOMEN THROUGH OPERATION SITE.

A. UTERINE HORN.
B. " BROAD LIGAMENT.
C. COLON.
D. RIGHT URETER.
E. PERI-RENAL FAT
F. SMALL INTESTINE.
G. OMENTUM.
H. EXT. OBLIQUE MUSCLE
I. INT. " "

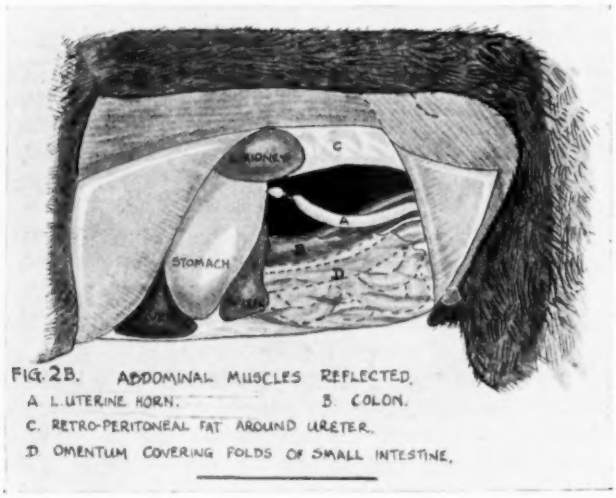


FIG. 2B. ABDOMINAL MUSCLES REFLECTED.

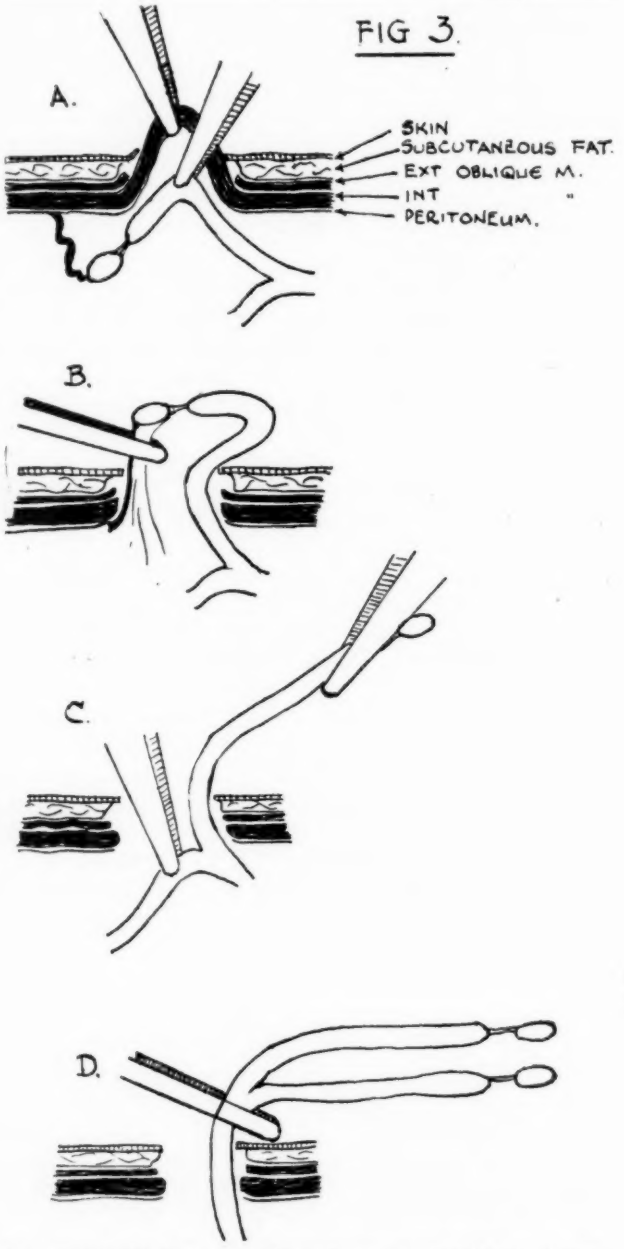
A. L. UTERINE HORN. B. COLON.
C. RETRO-PERITONEAL FAT AROUND URETER.
D. OMENTUM COVERING FOLDS OF SMALL INTESTINE.

difficulty will be experienced in locating the bifurcation; if too far back, the distal ovary; whilst if it is low, the presence of omentum in the wound makes location of the uterine horn difficult.

The incision, ¾-in. long, is made with the point of the knife (Bard-Parker No. 10 blade) through the skin and subcutaneous fat. If a large quantity of fat is present, a little may be snipped out. By so doing, a small vessel is usually cut, but the hæmorrhage is quickly arrested by pressure.

The external oblique muscle, which at this point is very thin, is picked up and punctured, exposing the internal oblique muscle. This is securely gripped with forceps and drawn out of the wound, tent-fashion (Fig. 3A) and a small hole, of sufficient size to allow the introduction of the points of forceps, is made through it and the underlying peritoneum. The grip on the internal oblique muscle should be maintained until the uterine horn has been located and seized, for the traction thus exerted on the peritoneum tends to pull the uterus into the wound. If omentum is encountered it should

FIG 3.



be immediately replaced and pushed downwards towards the abdominal floor, for the organ one searches for lies dorsal to it (Figs. 2A and B).

If, on introducing the forceps into the abdomen, one encounters fixed fat (one uses the term "fixed" to differentiate it from the fatty omentum) it lies in that fold of peritoneum running backwards from the peri-renal region to the pelvis (Fig. 2) which is intimately associated with the uterine broad ligament, and gentle traction on this will bring the uterine horn or the ovary into view.

Often one encounters the uterine horn immediately one introduces the forceps.

The uppermost uterine horn, with its ovary, is drawn well out of the wound. The vessels are clipped with artery forceps and the ovarian attachment severed (Figs. 3A and B).

The uterine horn is drawn upwards and backwards, so bringing the birfurcation into view. The distal uterine horn is gripped with forceps and carefully pulled out of the wound (Fig 3C). Care must be taken that it is not torn with the forceps. To bring the distal ovary out of the wound it will be necessary to press the abdominal wall downwards with the fingers. The second ovary is treated in the same way as the first.

The two horns, complete with ovaries, are drawn well out, and the uterine body, with its vessels, is compressed by artery forceps (Fig. 3D), horns and ovaries being severed above.

Pressure by artery forceps for a minute or so serves to seal ovarian and uterine vessels. It has already been stated that in mature animals ligatures should be used.

There is some difference of opinion as to whether or not, in the case of such a small incision, it is necessary to suture the abdominal muscles. My practice is to do so. If a small piece of omentum has become interposed between the edges of the internal oblique muscle, it will give rise to a troublesome hernia.

The incision in the internal oblique muscle should be closed by two sutures of No. 1 silk; a third suture will serve to draw together the edges of the external oblique together with the subcutaneous fat; whilst two more will close the skin wound.

The skin sutures are removed on the seventh day.

OVARO-HYSTERECTOMY IN THE PUPPY

The technique of speying in the bitch shows certain variations from that described for the kitten. The chief anatomical difference is that in the bitch the ovarian ligaments are short and difficulty is experienced in bringing the ovaries outside the abdomen.

If the operation is performed on puppies up to three months old, the flank method may be adopted, but considerable traction upon the distal uterine horn will be necessary to bring the ovary into view. Should it be found, after commencing operation, that the distal ovary cannot be removed, it is wise to remove the near ovary and uterine horn only, operating on the other side one month later. One would sound a note of warning here—it is essential that the ovary is completely removed, for if the whole or part of it is left behind, it will undergo cystic degeneration, and the animal will probably become nymphomaniac.

In the older puppy, in which the abdominal musculature is better developed and in which there may be considerable subcutaneous and retro-peritoneal fat, the operation should be carried out in the middle line.

Site of Incision.—There is a tendency to make the incision too far back. As has already been mentioned, the greatest difficulty encountered is the shortness of the ovarian ligaments, and for this reason the anterior commissure of the wound should be over these organs. The vagina and the uterine body in the bitch are long, and no difficulty will be found in bringing the bifurcation into view.

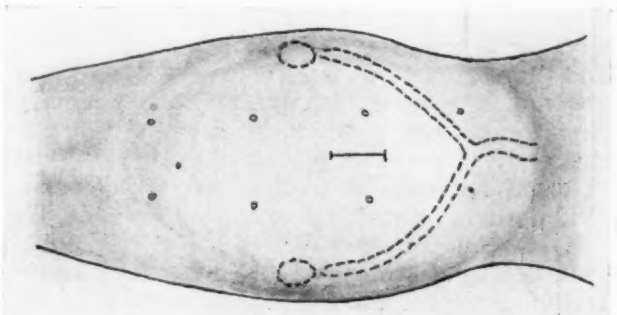


FIG. 4. OVARO-HYSTERECTOMY - BITCH. SITE OF INCISION.

The length of the incision is about 1-in., that is, sufficiently long to admit the introduction of the index finger. The finger is passed between the omentum and the parietal peritoneum towards the abdominal roof. Care should be taken that one does not carry omentum down with the finger, for it will be impossible to detect the small uterine horn with the finger covered by omentum.

The horn will be recognised by its size and comparative tautness. Under the finger it feels rather like a match stick. Anything having a larger diameter and greater mobility is small intestine. It is gripped between the tip of the finger and the abdominal wall and brought into the wound. (Some experience is necessary before the virgin uterus can be recognised by touch, and it is suggested that the operation be practised, by those unfamiliar with it, on the cadaver.)

Having located the near uterine horn, exposure of the bifurcation and the distal horn is not difficult.

Again, the comparative shortness of the ovarian ligaments presents difficulties and considerable traction on the horns with pressure of the abdomen is necessary, to bring the ovaries into view.

In young puppies of three months the ovarian and uterine arteries are sealed by pressure with artery forceps. In older animals ligatures are applied.

CASTRATION OF THE CRYPTORCHID CAT

I make no apologies for introducing this subject, trivial as it may seem. We are all called

upon to castrate cats, and when an abnormal one is presented, it is incumbent upon us to deal with it effectively.

In my department I find cryptorchidism to be present in about 1 per cent. of the animals presented for castration. The condition is usually unilateral, and the left testicle is more often retained than the right.

Before diagnosing monorchidism it must be first ensured, by careful palpation, that the testicle is positively retained in the abdomen, and that it is not, as is so often the case, extra-abdominal, lying at the external inguinal ring. In kittens up to six months the small size of the testicle may make its discovery, at the external inguinal ring, difficult. Delay operation until the animal is nine months old. The fully-developed testicle can be readily recognised.

It has been my experience that the retained testicle lies near the internal inguinal ring, and at one time, it was my practice to cut down, enlarge the inguinal canal and search for it there. A number of difficulties were encountered. The abdominal muscles at the point of their insertion are very tense; in addition, there is often a considerable amount of subcutaneous and retro-peritoneal fat in this region, whilst, finally, injury to the large veins which traverse this area gave rise to considerable hæmorrhage. These factors made discovery of the testicle difficult, and not infrequently one failed.

The following technique is now adopted:—

The junction of the two vasa-deferentia on the dorsal aspect of the neck of the bladder has a fixed position and, having located it, each duct can be traced to the inguinal canal.

The urinary bladder, if full, is emptied by digital pressure on the abdominal wall.

An incision, 1-in. in length, is made in the mid-line, its posterior commissure being half an inch in front of the pelvic brim.

The fundus of the bladder is gripped by forceps (the jaws being guarded by rubber tubing), and the organ drawn out of the abdomen and reflected backwards. By exerting traction on the bladder the vasa-deferentia are brought into view (Fig. 5B). Care must be taken that the ureters are not interfered with.

By drawing on each duct in turn the retained testicle will be brought into view, and out of the wound. There being no spermatic cord, it

FIG. 5

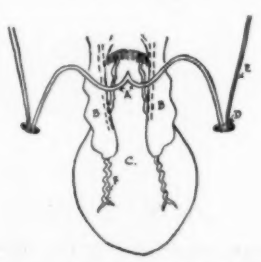
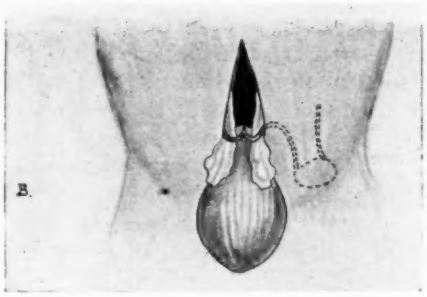


DIAGRAM OF STRUCTURES INVOLVED, CASTRATION CRYPTORCHID CAT



will be necessary, especially in the adult cat, to apply two ligatures—one to the vas deferens with its accompanying vessel, and the second to the spermatic artery.

In all my cases the retained testicle has been normal in size and appearance.

UNCOMPLICATED INGUINAL HERNIA IN THE BITCH

Inguinal hernia is more common in the female than the male, and of all breeds the Pekingese is most often affected.

The hernia may have been apparent from birth, or it may have been acquired later in life. It seems probable that in all cases there is originally a small congenital hernia containing omentum, and that this subsequently becomes enlarged. Upon operation, one finds that the hernial sac is made up of two portions: the larger, situated anteriorly, contains a loop of small intestine, or uterine horn with its associated broad ligament; and the second, which is tubular and passes back to the perineal region, to which it is affixed, containing omentum (Fig. 6). This portion would appear to be

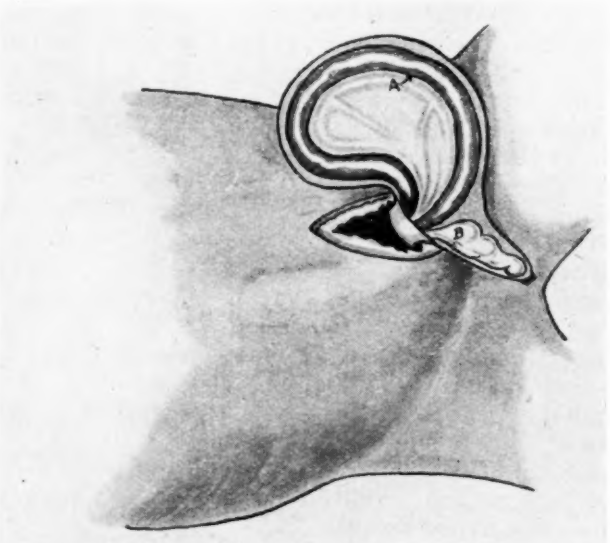
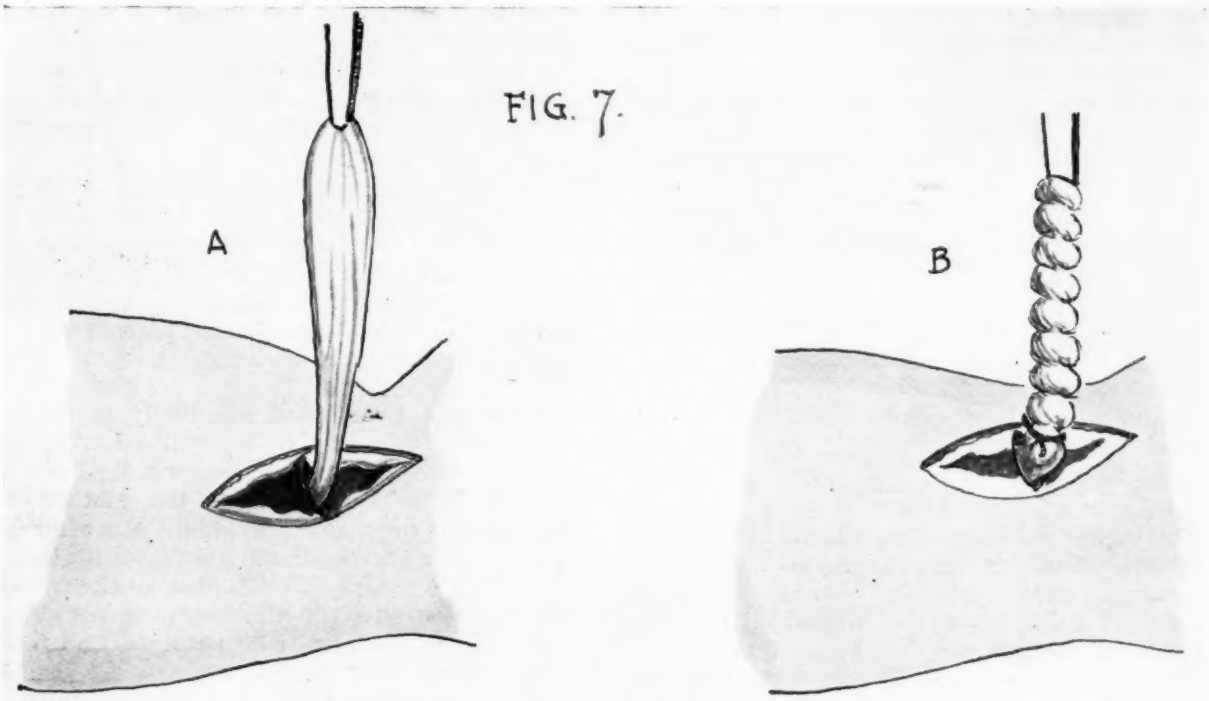


FIG. 6 INGUINAL HERNIA IN THE BITCH
HERNIAL SAC LAID OPEN
A. LOOP OF SMALL INTESTINE.
B. OMENTUM.

FIG. 7.



EMPTY HERNIAL SAC.

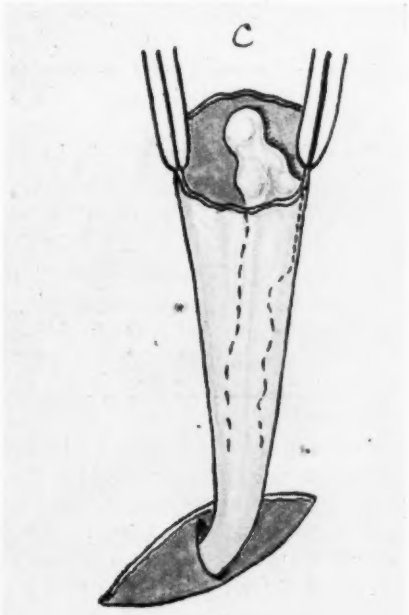
SAC TWISTED AND LIGATED.

the homologue of the processus vaginalis of the male, and is congenital. The omentum is often adherent and its release may necessitate opening the hernial sac during operation.

Some operators perform this operation under morphine narcosis with local anæsthesia. My practice is to induce general anæsthesia. Muscular relaxation facilitates exposure of the external inguinal ring, whilst with narcosis only, an unexpected movement on the part of the subject may make reduction of the hernia difficult, particularly if it has been necessary to open the hernial sac.

Prior to making the incision, the hernial sac is distended to its maximum by pressure on the abdomen. An incision, varying according to the size of the hernia from ¾-in. to 2½-in. long, is made over the most prominent part, its anterior commissure being approximately over the external inguinal ring, through the skin, subcutaneous fascia, down to the peritoneum forming the hernial sac. The peritoneum is recognised by its comparative transparency. Having exposed the peritoneum it is a simple matter rapidly to expose, by blunt dissection, the whole of the sac, down to the inguinal ring. It will be found, however, that the posterior portion is adherent by some strands of fibrous tissue in the perineal region. These are severed with the knife.

Care must be taken that blunt dissection is



SAC OPENED SHOWING ADHERENT OMENTUM.

not commenced until the peritoneum is exposed; otherwise, instead of approaching the inguinal ring, the fascia will be stripped up the abdomen, often exposing a considerable quantity of mammary gland tissue.

The sac is picked up with artery forceps and the contents of the hernia returned to the abdomen (Fig. 7A). It will be found in many cases, however, that the omental portion of the hernia cannot be reduced. This is due to adhesions to the wall of the sac (Fig. 7C). In this case it should be opened at its uppermost point and the omental adhesions broken down with forceps.

Having completely emptied the sac, it is twisted and ligated close to the external inguinal ring (Fig. 7B).

I make no attempt to close the ring. If the peritoneal sac which accommodated the hernia has been effectively sealed, there will be no recurrence. After operating on a considerable number of such cases, this method has been found to be effective.

My reasons for ignoring the canal are as follows: The anterior, muscular border, of the canal can be easily recognised and picked up. The posterior, that is the tendinous border, however, lies in the depth of the wound. It is not easily identified, and blind probing with a needle may cause considerable tearing. Again, the large veins which traverse this region are easily damaged and the severe hæmorrhage which results spoils what would otherwise have been a very successful operation.

METRECTOMY FOR PYOMETRITIS IN THE BITCH

The two most important points in connection with this operation, are: (*a*) Ligature of the blood vessels, and (*b*) the method of dealing with the stump.

Ligature of the Vessels.—Two important groups of vessels on each side, are involved. The first, the ovarian, arise from the aorta, and pass in a flexuous manner, in the anterior border of the ligaments, sending branches to the ovaries, the Fallopian tubes, and the anterior portions of the uterine cornua. The second, the uterine, originate in the pelvis as branches of the internal pudic artery, and pass forward in the broad ligament, to anastomose with the uterine branches of the ovarian vessels. In the first part of their course the artery and vein run together, lying close to the body of the uterus on either side. Later, that is at the posterior third of the cornua, they separate. The artery lies close to the attached border, the vein runs parallel with it in the broad ligament, but ½-in. to ¾-in. away. Anteriorly they connect again to anastomose with the ovarian vessels. My reason for paying so much attention to this point is that text-books of anatomy do not very fully describe these vessels, and that the veins are particularly prone to injury during operation (Fig. 8). Two groups of ligatures only are necessary.

Having withdrawn one distended horn from the abdomen a tear is made in the broad ligament behind and below the anastomising veins (the animal being in the dorsal position), and a ligature applied above and below the ovary (Fig. 8A). As a considerable amount of fat is to be included in these ligatures stout material (No. 5 silk) should be used, so that sufficient tension can be applied effectively to close the vessels. The ovary is severed from its peritoneal attachment above the lower ligature. The uterine horn is now drawn out and reflected backwards over the perineum. Care must be taken, when tearing the broad ligament, that the tear does not encroach too near to the attached border, otherwise the anastomosing vessels, previously described, will be involved and serious hæmorrhage may result.

The opposite ovary and uterine horn are treated in a similar manner.

The uterine vessels are ligatured an eighth of an inch behind the point of section (Fig. 9). The main vessels lie in the ligament close to its attached border. To ensure that the vein is not damaged by the needle, a portion of the vaginal wall should be included in the ligature.

Sealing the Stump.—In many cases of pyometritis the cervix is completely closed, whilst in those in which there is a vulval discharge, its lumen is very small as compared with that of the uterine body. For this reason it is my practice to make the point of section behind the cervix, that is, through the vagina, and so remove the uterus as a sealed or almost sealed sac. This reduces the risk of peritoneal contamination to a minimum. That this is a point of importance may be gathered from the fact that three prominent men have recently published articles on the subject (Merillat,[1] Smythe, R. H.,[2] and McCunn[3]). Invagination is the most popular method, section, presumably, being made through the uterine body. It is agreed that in cases of metrectomy for the relief of dystokia, in which the cervix is obliterated, invagination is the proper method of closure. If, however, in pyometritis, the method of removal behind the cervix is adopted, it will be found that there is insufficient tissue to practice invagination, and so a flap operation is adopted. (See Figs. 9 and 10.)

The vaginal mucosa is treated with liq. iodi. mitis. Before returning the stump to the abdomen, the pressure on the forceps gripping the stump should be eased, to ensure that the vessels have been effectively sealed.

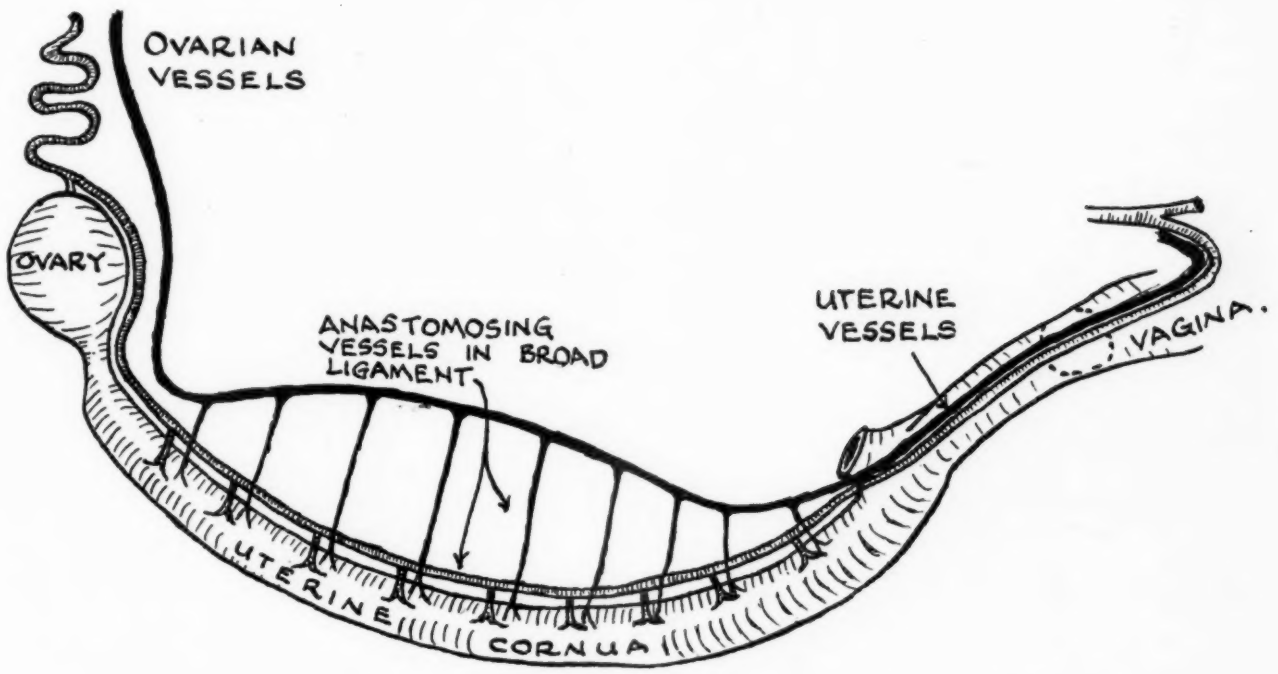


FIG. 8. DIAGRAM OF UTERO-OVARIAN VESSELS.

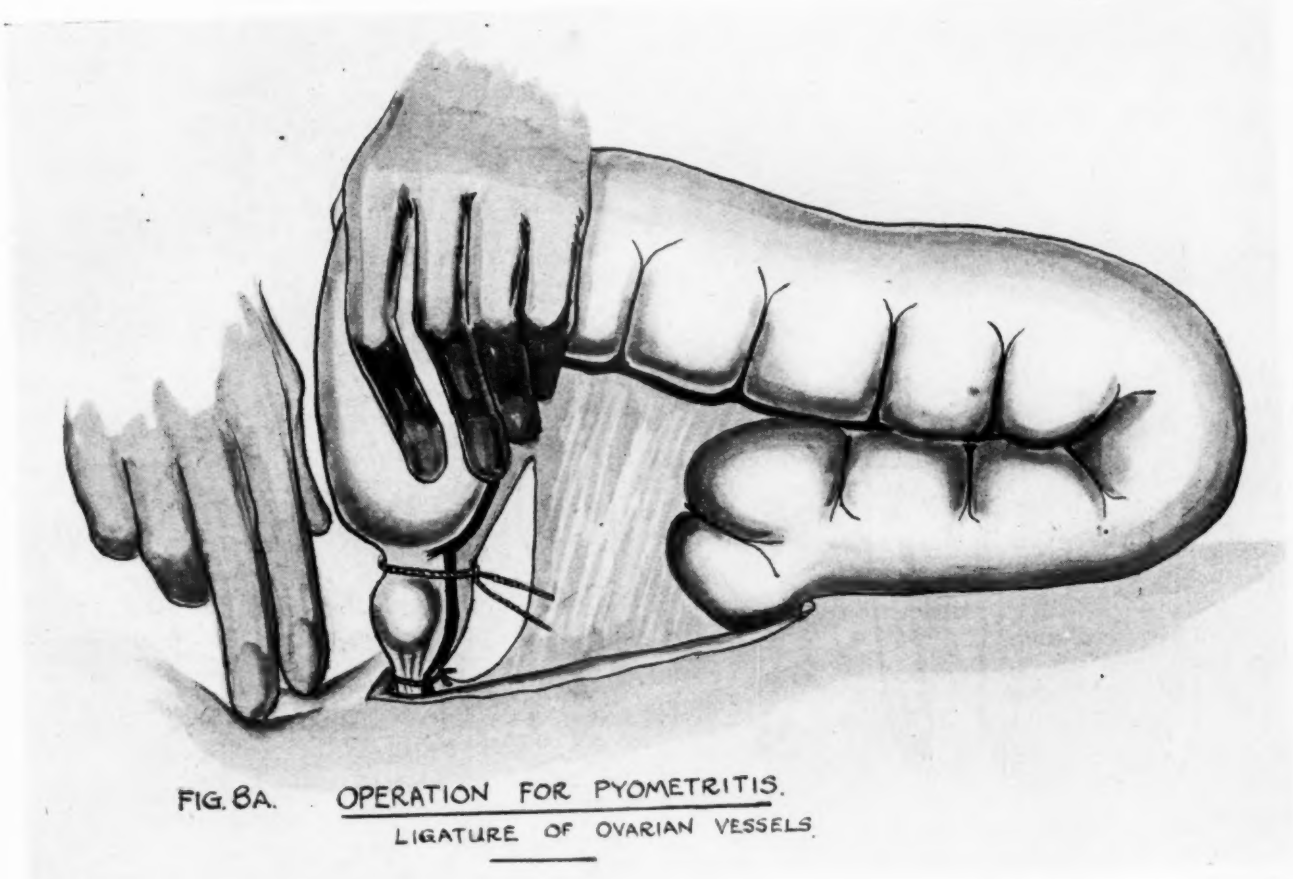


FIG. 8A. OPERATION FOR PYOMETRITIS.
LIGATURE OF OVARIAN VESSELS.

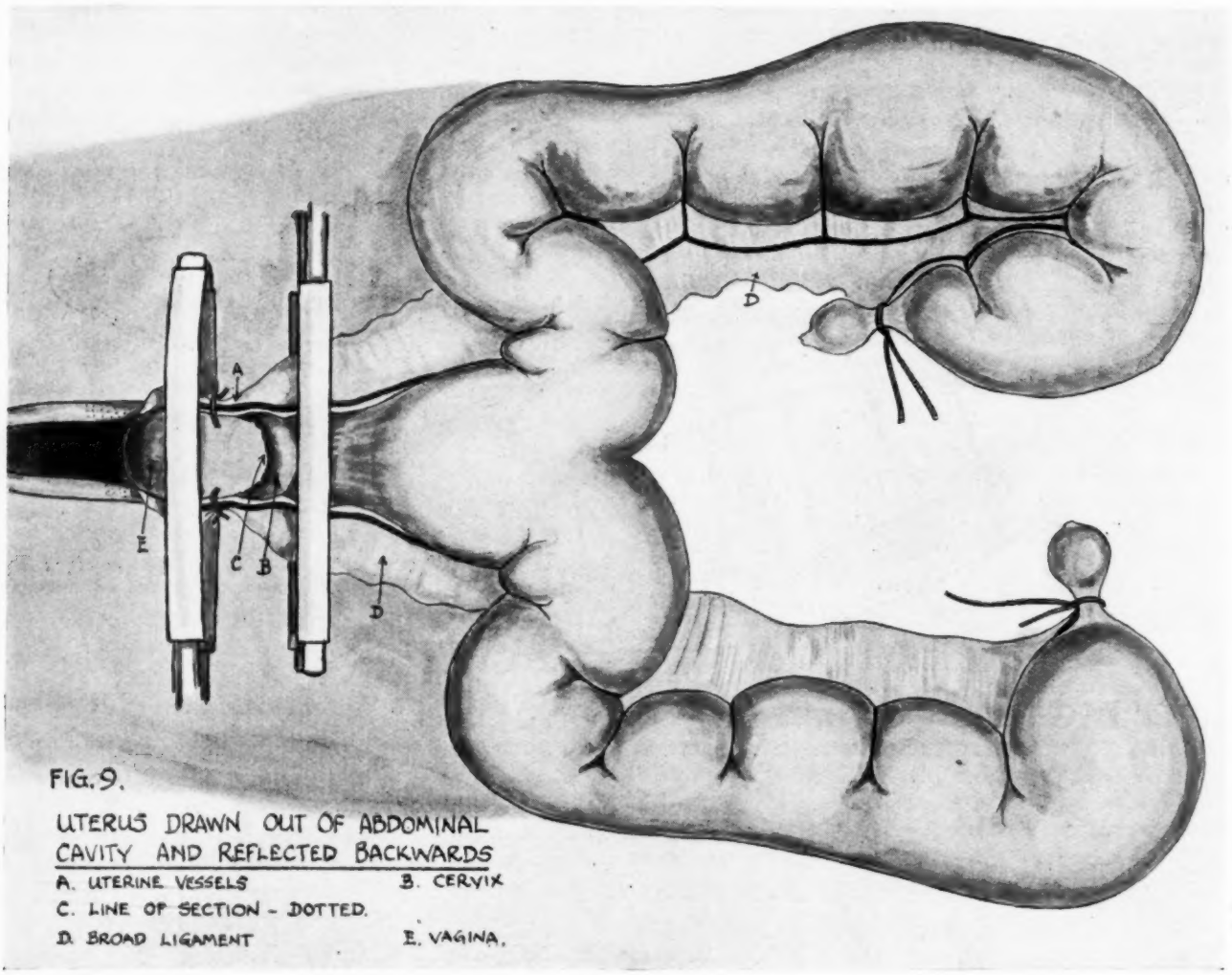
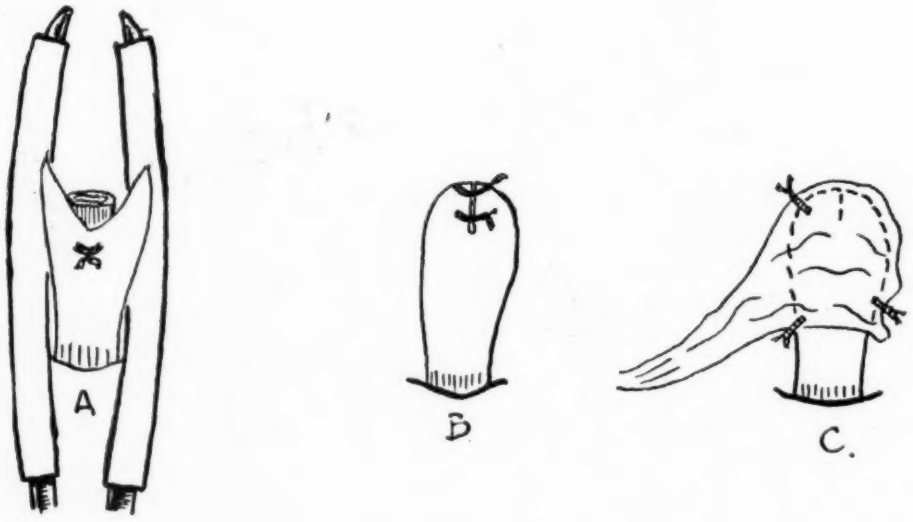


FIG. 9.

UTERUS DRAWN OUT OF ABDOMINAL CAVITY AND REFLECTED BACKWARDS

A. UTERINE VESSELS B. CERVIX
C. LINE OF SECTION - DOTTED.
D. BROAD LIGAMENT E. VAGINA.

FIG. 10



METRECTOMY FOR PYOMETRITIS - METHOD OF DEALING WITH STUMP.

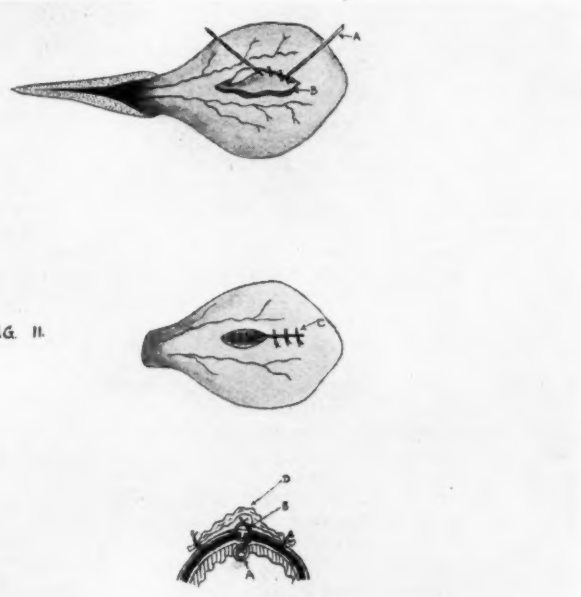
CYSTOTOMY IN THE BITCH

Method of Closing the Bladder.—In most cases of vesical calculus there is present, at the time of operation, advanced cystitis with considerable thickening of the bladder wall. It is customary when closing wounds in any of the abdominal organs, to practice invagination, using Lembert or Czerny-Lembert sutures.

My experience has been that invagination of the thickened bladder wall presents difficulties. The first is that the congested vessels which run parallel with the incision on either side may be involved in the second layer of sutures; and the second, that on account of the turgidity of the thickened wall the sutures tend to tear rather than invaginate it.

The method suggested is that the mucous membrane shall first be closed by a continuous gut suture (No. 0), and the muscular and serous coats by a layer of closely interrupted silk (No. 2) sutures (see Fig. 11).

FIG. 11.



CYSTOTOMY ~ METHOD OF CLOSING BLADDER.

A. CONTINUOUS CATGUT (No 0) SUTURE DRAWING TOGETHER MUCOUS COAT.
B. LIPS OF WOUND, SEROUS & MUSCLE COATS
C. INTERRUPTED SILK (No 1) SUTURES IN "B"
D. OMENTUM COVERING WOUND.

If silk is adopted for closing the mucous membrane it will eventually find its way into the bladder. C. Formston[4] has recorded finding silk sutures in the bladder three months after operation.

PERITONISATION

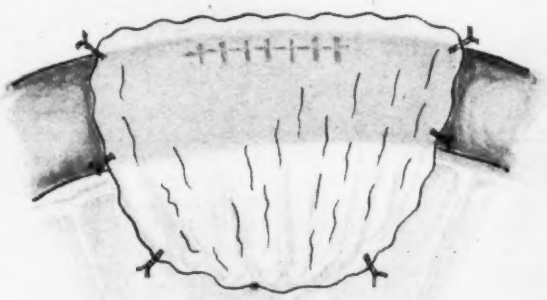
Merillat, reviewing the methods of sealing the septic uterine stump in metrectomy, refers briefly to peritonisation. McCunn, in a later paper, speaks highly of this method of combating peritoneal infection. My experience endorses this latter writer's views. In every case in which the stomach, bowel, bladder or uterus has been opened, the application of peritoneum, in the form of omentum, to the sutured wound, does much to reduce the incidence of post-operative peritonitis. It also facilitates rapid healing of the organ, for firm omental adhesions are present within 48 hours.

I have recently had two cases of enterotomy for obstruction by foreign body, which, at the time of operation, appeared hopeless; but which made striking recoveries—attributable, I consider, to the use of an omental sheath. I will give details of one.

The subject was a six-year-old Sealyham bitch, suffering from impaction of the ileum of four days' duration. Laparotomy revealed 3-in. of the bowel impacted, at the ileo-colic valve, by undigested bone and faecal material. Considerable endeavour was made to break down the mass by pressure and effect its passage through the valve. This resulted in the serous coat, which was purple with congestion, splitting. An incision 2-in. long was made and the impacted mass removed. Attempts at invagination resulted in tearing of the wall.

It was therefore decided to close the bowel by a single layer of interrupted silk sutures, and then cover the whole with omentum (Fig. 12).

FIG. 12.



ENTEROTOMY FOR FOREIGN BODY, WOUND CLOSED BY INTERRUPTED SUTURES AND COVERED BY OMENTAL SHEATH.

In view of the state of the bowel and the gross contamination of the peritoneum which had occurred, it was felt that the case must be hopeless. Actually, recovery was speedy and uneventful.

Before closing, I wish to acknowledge the loyal help I have received from those ladies and gentlemen who have served as my assistants during the past four-and-a-half years.

References

[1]Merillat, L. A. *North American Veterinarian*, reprint in *Veterinary Record*, No. 35, Vol. xi, 1931.

[2]Smythe, R. H. *Veterinary Record*, No. 40, Vol. xi, 1931.

[3]McCunn, J. *Veterinary Record*, No. 19, Vol. xii, 1932.

[4]Formston, C. *Veterinary Journal*, No. 4, Vol. lxxx, 1930.

. . . . .

Discussion

The President (Mr. T. Wilson) said he was sure they were all very grateful indeed to Professor Wright for the great amount of trouble and care to which he must have gone in framing his most interesting and very useful address. He had certainly given them a great deal of material to think about, and they must all recognise the authority he was on the subject. At the same time, he hoped that fact would not in any way frighten those who might desire to ask Professor Wright questions, because he could assure them that the latter would be pleased to receive any criticism which members of the Association might care to offer.

Mr. H. Raynor Hewetson, M.R.C.V.S. (Southport), opening the discussion, prefaced his remarks by stating that that was the first occasion upon which he had had the pleasure of hearing Professor Wright speak in person, but he had for a long time experienced an especial pleasure in reading any report of a paper, or clinical study by Professor Wright, because, in his view, he always succeeded in expressing himself in such a way as to be of real practical benefit to his listeners, or to his readers. He always appeared to be at pains to tell others how things might be done, rather than about the things he had done himself.

He was sure he could not pay a better compliment to Professor Wright's paper than to say that the Professor had, in the respects indicated, at least equalled, if not exceeded, his previous contributions to veterinary science, and that it would long prove a valuable reference, and be read, and re-read, by most of them with both pleasure and profit.

There were those who, to put it mildly, regarded the work of the veterinary profession as being on a somewhat lower standard than that of the medical profession, yet it was known that many of the operations which had been referred to in Professor Wright's essay, which the general practitioner in veterinary surgery was called upon to undertake, would, in the human domain, in the great majority of cases be referred to surgeons specialising in each particular branch of surgery.

The family practitioner, when confronted with some unusual problem, or with the need for major surgery, could, justifiably and without loss of prestige, refer his case to one who had made that particular subject his life-work. On the other hand, however, the veterinary surgeon who could not solve all his own problems, or perform whatever surgery was required, was regarded by his client with an air of surprised disappointment, notwithstanding the fact that the same client might have spent half the time of the consultation in describing some personal illness, together with the number of specialists who had been consulted, and the fees paid to each.

He did not wish to labour the financial aspect, except to show how it impeded veterinary progress. Canine nurses could not exist on less than ordinary nurses, merely because they "only" looked after dogs and cats. The special invalid foods were the same price, irrespective of the consumer, and the cost of instruments for veterinary purposes was, if anything, higher. Nor could it for a moment be considered that fees received by veterinary surgeons for their best cases bore any relationship to the fees paid to medical practitioners for similar services rendered to human beings.

Moreover, they had to provide for those cases where the owner was unable to afford to pay for the services required. In this connection, the speaker invited the meeting to consider the sums paid annually from National Health Insurance funds for the provision of medical attention to the poor; also the hundreds of thousands of pounds which were voluntarily subscribed every year for the erection, equipment and maintenance of hospitals and clinics, and to compare those sums with the comparatively small amount needed to rebuild the Royal Veterinary College, and the sum subscribed for qualified treatment of animals of the poor, through veterinary colleges and the R.S.P.C.A. At the same time, they knew that a lot of the money which was expended upon the treatment of animals was really "running to waste."

The speaker proceeded to state that the public were persuaded to subscribe money to organisations which purported to provide treatment for animals of the poor, but which did not employ the services of qualified persons to administer such treatment. Only the previous Sunday he had listened to an appeal in English, issued from a French radio station, for subscriptions for such an organisation, on behalf of which it was claimed that it had treated over a million animals last year. "A million animals," commented the speaker, "subjected to the ministrations of people who had not received proper training, and from money voluntarily subscribed by the public! Can anyone imagine members of the public subscribing money for the treatment of poor persons other than by qualified practitioners? Or can anyone imagine the poor persons themselves submitting to such treatment? Political capital would soon be made of such a scheme. 'Doctors for the rich; quacks for the poor' would be screamed from the headlines."

Then why should it be permitted in the case of helpless, suffering animals, which were unable to protest for themselves? The measure of success and progress achieved by the veterinary profession, both individually and collectively, in face of the difficulties and handicaps he had indicated, was proof that it lacked nothing in skill, patience, enthusiasm and devotion to duty. Only the intelligent co-operation and whole-hearted support of the profession by the public were required to ensure for all animals medical and surgical facilities in every way equal to those available for human beings; the education of the public to the needs of the situation was vital, and the only people to give the public such education were the veterinary surgeons themselves.

Addressing himself more strictly to Professor Wright's paper, with particular reference to its technical aspects, Mr. Hewetson spoke as follows:—

"It is unfortunate that, the better the essay,

the worse is likely to be the discussion. It is easy to raise points about a weak paper, but the one under consideration leaves few loop-holes. In many of the questions I shall raise I shall do so rather from the standpoint of provoking controversy than from disagreement with the author.

"I have not had the opportunity of using Professor Wright's ether mask. Chloroform to induce anæsthesia, followed by ether to maintain it, by means of an open ether mask covered with one or two thicknesses of lint, according to the size of the patient, has served me well. The author's mask would appear to be exceptionally safe, and would seem to be ideally adapted for use with nitrous oxide gas and oxygen. I would like to know if he has ever used it for this. The rapidity with which anæsthesia may be induced, and the prompt recovery, makes this gas ideal for many of the minor operations where stillness and freedom from pain are essential.

"Sterilising of instruments and dressings by boiling seems a very unsatisfactory process, though it is the only one I have used up to now. However carefully we pour off the surplus water, things still seem to be in a rather soppy mess, and wet towels—and they are still wet towels even after being wrung out to the best of our ability—can hardly be good for the patient, draped over most of its body. Gloves can be a horrible nuisance. I wrap and fold mine, tightly tying them with tape, but it does not prevent some water getting into the fingers. I look forward to the time when I shall possess a self-drying steriliser. I usually dry my hands after washing, swill them in spirit, and have surgical lubricant liberally applied before putting them on, it being less irritating than soap left on the hands. We cannot all attain perfection with our incision, and, if it must err, let it err on the side of being large. More time is wasted fiddling through too small an opening than is taken putting in the extra stitch or two to close a large one. I am aware of the technical advantages of the paramedian incision, but the capillary hæmorrhage is an inconvenience, and the linea alba heals well enough, in my experience.

"Professor Wright has rightly stressed the great importance of speed. Speed depends on two factors, *viz.*, the skill of the operator, and the amount of work to be done. Skill is largely a question of practice, and there is a vast difference between the 1,000 animals a year operated upon in a small-animal clinic and the number which fall to the lot of the private practitioner. Possibly 20 per cent. of cases do call for some sort of surgical interference, but I would not put the percentage calling for major surgery above about one or two, though I have no figures to substantiate it. It follows, therefore, that the speed of the operator is likely to be less in practice than it is in the clinic; consequently, any procedure by which we can reduce the amount of cutting and stitching to be done will be worth while, and will more than counterbalance the loss of theoretical efficiency. For this reason I use only two rows of sutures to close my incisions; the first includes the muscle and peritoneum, the second the skin.

"I do not like silk for the skin. Silkworm gut is less irritating, and it does not absorb dirt from outside and pass it into the wound. I usually like to dab my wounds each day with a little spirit; I do not know whether it really does any good, but we are not able to keep our patients between sterile sheets, and it at least soothes my mind. For some time I have done my female kittens through both flanks, making the incisions slightly forward of those shown by Professor Wright. It has the advantage of very small wounds, of which I suture the skin only; there is practically no interference with internal structures except those removed, and it has, up to now, attained the 100 per cent. success desired. The disadvantages are the unsightly appearance of the kitten for some time, with both flanks bare, which looks like bad surgery. In cats of all ages I do not use sutures for the ovarian and uterine vessels, but a small American instrument of the emasculator type, especially made for the purpose, and have had no trouble with hæmorrhage. I think Professor Wright's method through one flank is better practice; and, having heard his description, and seen his diagrams, I propose to adopt it.

"I would like to hear the opinions of Professor Wright and other members of the results of oophorectomy or ovaro-hysterectomy on the puppy for the purposes of preventing œstrus and pregnancy.

"Personally, I do not like unsexing either the dog or the bitch, and will not undertake either, except under great pressure from the owner. In consequence, my experience is very limited, but I have noticed that the neuter dog lacks something undefinable in his character, and the bitch becomes a positive 'ninny.' There is a sweetness and charm in the female dog which is completely lost after this operation. Ovaro-hysterectomy for dystokia or metritis in later life does not seem to have much effect in this way, and I agree that I would not keep a cat as a pet which had not had the appropriate operation.

"In regard to cryptorchid cats, when the kitten is brought at, say, three months old, and only one testicle can be found, does Professor Wright remove the one that can be felt, or does he leave it? I have had a number of cases where at three or four months I have removed the one testicle and two or three months later I have found the other testicle in its normal position, whereas in similar cases where the normal testicle has been left I have never found the other to descend. I am satisfied that the technique described in the paper will make simple for us what has hitherto been rather a troublesome operation. Even in those cases where the testicle does not lie where we expect it, tracking down must be considerably simplified by having a definite starting point.

"Professor Wright's description of the operation for inguinal hernia in the bitch is, in my opinion, perhaps the most valuable in the paper. It is perhaps one of the most common conditions requiring to be dealt with, and, as he says, the trouble we encounter in our efforts to close the inguinal ring is responsible for most of the ill-results of the operation—I should say about 99 per cent. I would like to know at what age he suggests this operation should be done. There does not seem to be any tendency to natural reduction, as frequently occurs in umbilical hernia, as the animal gets older. Rather does it get worse. In cases where it is necessary to enlarge the ring to reduce the hernia, does he then suture the ring or not? I agree that general anæsthesia is the best for this operation; in fact, I believe that general anæsthesia is preferable for a great many of the minor surgical conditions for which local anæsthetics are too commonly used. The quietness of the animal, and complete absence from pain, make for much better work, and no local anæsthetic yet produced is completely free from detrimental effects on the healing of the wound.

"Coming to the uterine operations, the whelping bitch presents an infinite variety of problems. One of the most common is the bitch, valuable for breeding and show, but which is only a nuisance if rendered useless for these purposes. She has been in labour anything from twelve to 24 hours, and, on examination, one or two cold legs can be felt partly outside. Usually with little difficulty we remove this puppy, which is followed by a copious amount of stinking fluid. Labour ceases, despite the most energetic means to restart it, and the probability is that the rest of the fœtuses are dead. If we wait and hope to remove them with forceps, she will almost certainly die from metritis, even if we get away the fœtuses. If we perform metrectomy, we may as well destroy her, from the owner's point of view; whereas, if we attempt cæsarian section, the operation is blamed for the ensuing death.

"I should have liked Professor Wright to have described his technique for cæsarian section, and especially if he could have suggested one through the flank. The enlarged mammæ are a distinct impediment to the middle-line operation, and it is not uncommon for the wound to receive a liberal bathing with milk.

"Mr. McKinna described his method of flank operation in 1927, but did not go into much detail of his technique, and I have not subsequently seen any reference to this method. Granted suitable conditions, it is a simpler and more satisfactory operation than Porro's.

"Of all operations, speed is the most important in metrectomy for pyometritis, since we already have a toxic patient in most cases. For this reason I dispense with the ligatures above the ovaries, using instead a pair of Kocher's artery forceps. The seal here is only required for the period of the operation, since it is on the side which is removed. I apply the lower ligatures on each side first; then, as soon as the forceps are applied, section above the lower ligature can be made, and the horn reflected out of danger. The method outlined by the essayist for sealing the stump would appear to be simpler than many of those advocated. The mere fact of not incising through the infected body goes a long way towards preventing subsequent peritonitis. I have not tried it, but it does seem to have a corresponding disadvantage in that the site must become even more difficult to work upon. The site, however, is so attractive from the non-infective point of view that one may feel tempted in certain cases to trust to simple ligation there, accompanied by the usual dressing with iodine or Ac. carbol.

"If one could always have the services of an assistant with sterile hands, the stump would present less of a problem. As it is, probably the strong silk as far behind the cervix as possible, best thing to do is to apply a long ligature of tying the ends in a loop. The end of the loop can be dropped right away from the wound, where it may be picked up by the anæsthetist, or other person, and traction applied to hold it in convenient position. When finished with, it can first be cut close to the stump and pulled away, so avoiding contamination.

"The method suggested for closing wounds of the bladder is another simplification of value, but I am afraid I do not understand how he succeeds in getting the knot in the continuous suture inside the mucus coat. Possibly he does not, and the position shown is a diagrammatic error. A further disadvantage to the use of silk for this suture would be that it would probably serve as a nucleus for the formation of a fresh calculus.

"In the case of the Sealyham bitch, the recovery was indeed striking. If, in addition, by a single layer of interrupted sutures, Professor Wright means he passed through all three coats of the bowel, causing simple approximation, as in a skin wound, 'striking' is only a mild term to apply. It brings a message of hope to some of our hopeless cases which hitherto have not been allowed to recover from the anæsthetic.

"It completely eclipses the following case I had recently, in which a dog met with an injury before eight o'clock in the morning, running a spike up through the loose skin in the groin. About mid-day the owners noticed something protruding through the wound, and brought the animal to the surgery about 2.30. As I was engaged at the moment of their arrival, they left it with the kennel attendant, asking that I should dress it, and they would call back for it about five o'clock. On examination, the protrusion proved to be a loop of intestine, a nice bluey-red, fairly well impregnated with grit or soil. Having no sterile saline handy I washed it with T.C.P., and removed the gritty substance as well as possible by light scraping, pushed it back under the skin, and applied a bandage until I could get in touch with the owners for permission to operate. This was not until 7.30 p.m. The tear in the oblique muscle was about two inches from the skin opening, and, having cut down on it, the bowel was washed in sterile water and replaced, wrapped with a piece of omentum. From the moment of recovering from the anæsthetic the dog was, and continued to be, apparently perfectly well.

"I should like, in conclusion, to say how much I appreciate the honour of opening the discussion on such a valuable contribution by such a distinguished essayist. I hope I have not wandered on too much, to bore you, but that I have said sufficient to arouse a lively discussion in which many of you, more able than myself, will participate."

Mr. G. Mayall (Bolton) described Professor Wright as a very hard man to criticise from a general practitioner's point of view. Nevertheless, there were one or two things which occurred again and again in practice to which he thought that he (the speaker) might appropriately refer. In his own experience, and particularly in latter years, he had many cases of prolapse of the rectum in dogs. According to the text-books, there were several ways of dealing with such cases. One of them was to put a thermometer case or tube in the bowel, put four sutures in close to the anal ring, and cut off the prolapsed portion. Personally, his experience with this method had been disastrous. For one thing he did not think there were half enough sutures there. As they probably got an inflamed bowel, the sutures tore out, and the last state of the dog was perhaps worse than the first.

Two American gentlemen, *viz.*, Carpenter and McDonald, in *The North American Veterinarian*, August, 1925, did not cut off the prolapse at all, but scraped off the infiltrated (epithelial) layer of the mucous membrane down to the basement membrane with a scalpel and, thus thinned down, the protrusion slips back into place spontaneously; they claimed it would never return. Quite recently, in *The North American Veterinarian*, a writer had suggested the use of rubber tubing. He arranged the end of the tubing something in the nature of a pencil, pushed it up the rectum and anchored it at the anus by purse-string sutures. He drew the sutures through the tube both above and below and flushed out the tube daily with lukewarm water, and he said that in five days the tube would be found outside the rectum.

He would like Professor Wright's view as to what constituted a lethal dose of nembutal for a dog. One proprietary firm, when applied to, did not know the lethal dose. According to an American practitioner, it was possible for a lady to hold a dog in her arms and for the veterinarian to inject a dose of nembutal into the animal and it would die peaceably in the lady's arms. Personally, if that were so, he thought the dog must have been in the last stage of decrepit and dissolute decay. (Laughter.) In regard to a case with which he had been called upon to deal, he had injected six grains of nembutal intrathoracically into a dog 30-lb. weight and the animal went into a very peaceful sleep but did not pass away.

He had also performed cæsarian section several times, and with regard to one instance, the animal—a bull bitch—had been very restless, so he injected a dose of morphine before using chloroform. Having got the bitch well under chloroform, he took the puppies away. There were ten, of which one lived. He believed that, in connection with human surgery, they were very chary about using morphine, as some medical men were of the opinion that it sometimes caused death of the fœtus, and he was wondering whether that was also the case with regard to dogs.

Mr. White, junr. (Liverpool), expressed the view that Professor Wright was "somewhat optimistic" in regard to the length of time that elapsed between the oncoming or onsetting of a disease which required surgical interference and the time before the general practitioner's services were sought. He was afraid that, in general practice, they did not usually get such animals after 48 hours' illness.

Professor Wright had also mentioned about painting a wound with iodine prior to performing an operation, and had said he doubted whether the iodine possessed very much value, and whether any sterilising effect that occurred was due to the spirit which was very frequently used. The point which he (the speaker) desired to stress in this connection was that he did not think there had been sufficient time allowed for the iodine to work.

On one occasion he (the speaker) had seen an operation for pyometritis performed by Professor McCunn at the Royal Veterinary College, and he had noticed that, after suturing the skin wound, Professor McCunn had stitched over the wound a sterile pad of lint. He understood that that was Professor McCunn's general practice. He (Mr. White) had since adopted it, and had found it of great value, particularly in the case of cats, because, as had been mentioned by Mr. Hewetson, they were not able to put them between sterile sheets.

With regard to the extent of the incision, it was obviously an advantage to have a small wound, but he remembered that on one occasion Professor Mitchell (he thought it was), of Edinburgh, had mentioned that, after all, if the wound was sterile, a wound of an inch healed just as quickly as a five-inch one.

Professor S. H. Gaiger observed that, while the subject was one which was rather out of his particular province, he had listened with a great deal of interest to what Professor Wright had had to say. There was no doubt that Professor Wright was a master of his subject, and one certainly felt that he spoke with authority when he referred to the thousands of cases he had dealt with. There were one or two questions which he would like to ask Professor Wright, and he desired to explain that, in doing so, it was merely a matter of curiosity on his part, inasmuch as surgery was not his subject.

He had, he proceeded, been tempted to wonder why it should be necessary to be so careful with the omentum in dealing with the hernial sac. Did it matter if they twisted up a piece of omentum with the hernial sac, prior to removing it?

With respect to tincture of iodine, he had always understood that it was quite ineffective unless applied on a quite dry surface, and one would like to hear from Professor Wright whether that was correct or not.

Another matter which occurred to him was this. He had a vivid recollection, in his younger days, of speying pigs—the pig lying on the floor of the sty, with one's right foot on its neck; and, after the incision had been made, pushing one's more or less dirty finger into the peritoneum, and keeping it there while one fished for the uterus, and one never lost a pig. His curiosity tempted him to inquire whether there was something about a pig's peritoneum which was different from the peritoneum of other animals.

Finally, might he express the hope that that paper by Professor Wright might be only in the nature of a first instalment? (Applause.) He was sure the net result of what Professor Wright had told them that day would merely be to whet their appetites for a great deal more. (Hear, hear.) What Professor Wright had said to them was certainly of very great interest; and perhaps some other time he might see his way again to attend a meeting of the Lancashire Association, and give them a second chapter of the story. (Hear, hear, and applause.)

The President, in calling upon Professor Wright to reply, said that, at the commencement of his paper, the Professor had mentioned that delay in performing the operation in parturition cases was a source of great trouble; that, in fact, that was where the trouble was caused. At the same time, he should say that delay in dealing with small animals was different from what it would be in the case of larger ones. In the case of parturition in larger animals it was found, in the majority of cases, that it was a matter of giving them plenty of time, and that was where, he thought, those whose work lay principally in connection with larger animals found that a great amount of damage might be done in cases of parturition, through not allowing a sufficient amount of time. In operation cases, however, no doubt the reverse applied.

The Reply

Professor Wright, who was heartily applauded upon rising to reply, sincerely thanked the meeting for the very kind manner in which they had received his few remarks. With regard to the point raised by the President, it must be borne in mind that the large animals were generally uniparous, whereas the small were multiparous. In the bitch, if there was considerable delay over the delivery of the first fœtus, uterine inertia would develop, and this factor might be the cause of her death.

With regard to Mr. Hewetson's point as to whether nitrous oxide anæsthesia would be of advantage, he (the speaker) had had a little experience of this agent, but he had not been greatly impressed. In order to provoke anæsthesia with nitrous oxide, an atmosphere of about 95 per cent. gas was necessary. Administration caused fear and struggling on the part of the animal, which felt it was being asphyxiated.

Anæsthesia was extremely transient, muscular relaxation incomplete and, as consciousness returned in a matter of a few minutes, it was not of much practical value. Continuous anæsthesia could be maintained by a mixture of nitrous oxide and oxygen, but the cost of the apparatus precluded its use from veterinary practice.

Another point raised by Mr. Hewetson referred to sterilising by boiling. In the College they had the most up-to-date facilities for sterilisation, but he thought it would be unfair to speak of methods involving costly apparatus. He had performed many hundreds of operations in the manner described and he thought that such methods and appliances were available to all practitioners throughout the country, but he agreed with Mr. Hewetson's remarks regarding wet cloths.

In this connection, Professor Wright mentioned that he had heard of a form of sterile Japanese paper, rather like wallpaper, that might be used to replace cloths for rapid operations such as speying.

Concerning the percentage of major operations which one was called upon to carry out; in his department at the Royal Veterinary College during the last quarter of this year 3,500 animals were seen; 2,100 were new cases and the remainder reinspections. One hundred and eighty-one operations had been performed under general anæsthesia.

In reference to the single flank method of speying as compared with a double operation, he thought that once Mr. Hewetson had tried the former, he would adopt it. The length of the wound—three-eighths-of-an-inch—was an actual fact, the incision merely comprised a stab with the knife.

Mr. Hewetson had mentioned that the speyed bitch subsequently lacked an indefinable something; he (Professor Wright) had always regarded this as mythology based upon one's conception of what might happen rather than upon actual fact. Whenever he came in contact with a dog that had previously been speyed he made a point of enquiring from the owner, "Is this dog as other dogs are?" "Does it bark at the door, gallop about, tear up shoes, and make itself a general nuisance?" The invariable answer was "Yes." It was customary to say that speyed bitches became very fat; his experience was that this tendency was no greater than in unspeyed bitches. In any case, from a teaching point of view it was essential that students who were going to become veterinary surgeons should be very familiar with the technique of an operation which they would be qualified to perform a little later on.

When a monorchid cat was encountered, the testicle in the scrotum was not removed. The object was to indicate to them, at a future date, that this was an uncastrated cat, the side of the retained testicle being obvious. He had mentioned in his paper that such an animal was left until nine months old before operating, to make quite sure that the testicle was retained in the abdomen.

Strangulated inguinal hernia in the dog was rare. He could only recall three or four cases in which it was necessary to enlarge the inguinal ring to facilitate reduction of the hernia. The rectus abdominis muscle was incised, with a probe-pointed bistoury, parallel with the long axis of the body, and that incision was subsequently sutured.

He had purposely left out the technique of cæsarian section, for he felt his remarks were already sufficiently long. It should be borne in mind that the operation of cæsarian section was simpler than that of metrectomy, and was attended by less risk, provided operation was carried out before putrefaction had set in. He agreed that it required considerable courage to persuade the owner of a valuable bitch suffering from uterine inertia, that an immediate operation was necessary. It was certainly easier to let matters take their course. The point was that if this latter procedure was adopted the animal would probably die, whereas operation carried out early gave every chance of success.

As to technique, it would depend upon the number of fœtuses present. If only two or three, one would probably incise the uterine body and remove the fœtuses from each horn through this incision. In the case of six or more fœtuses, it was better to incise and remove the contents of each horn separately. A point to be borne in mind was, in the case in which interference had been carried out, *i.e.*, the uterus was a potentially infected one, that it was best to make the incision towards the apex of the uterine cornua where the contents were still sterile.

At this point he would refer to a condition with which he had met on a number of occasions, but which was not generally appreciated. It was the case of the bitch, pregnant with one fœtus, in which the period of gestation became abnormally long, even up to 83 days. In such a case the fœtus attained an enormous size and ultimately gave rise to complete uterine inertia. Cæsarian section should be performed in such cases before labour commenced. Results were amazingly good.

The flank operation was quite a rational one and no difficulty would be experienced in withdrawing the distended uterus through the wound. The wound would, of necessity, be rather large, and incision of the internal oblique muscle would give rise to some hæmorrhage. Healing, however, was more satisfactory than by the mid-line method. He had performed cæsarian section or metrectomy for dystokia through the flank in the cat on many occasions.

Regarding the operation of metrectomy, Mr. Hewetson would find that the vagina was not so inaccessible as would at first appear.

Mr. Mayall had spoken of prolapse of the rectum. It was a nasty condition, which chiefly occurred in young puppies. His (Professor Wright's) practice was to open the abdomen, reduce the prolapse by tension on the colon, and subsequently anchor the colon to the abdominal wall. Results were not too good. In adult animals he removed the prolapsed portion. He recalled the text-book teaching of Gursuney's wax operation—the injection of sterile hard paraffin into the perirectal tissues; but he had no experience of this operation.

Regarding "nembutal," the American reference to which Mr. Mayall had referred was truthful. The dose, six grains to 30-lb. dog, *i.e.*, one-fifth-of-a-grain per pound, was the safe narcotic dose, and the result Mr. Mayall obtained was the one he (Professor Wright) would have expected. The great disadvantage of barbital narcotics, particularly in the dog, was the variation in reaction of individual subjects. Just why this variation occurred they did not know. They did know, however, that the recent absorption of a meal, by building up the glycogen reserves of the liver, reduced the action of these narcotics, and more consistent results would be obtained in animals which had been prepared by withholding food for 24 hours. In the cat the drug was much more consistent and in this species the agent was a valuable aid. When destruction was required,

considerably larger doses should be given—up to half-a-grain per pound body weight. This provoked profound general anæsthesia, when the animal could be destroyed by any of the accepted methods.

It had been pointed out by Mr. White that owners did not generally present their dogs to the veterinary surgeon after they had been ill for so short a period as 48 hours. Professor Wright suggested that, in many cases, they did, and his point was that by a careful examination an accurate diagnosis should, if possible, be made at this time. The top and bottom of success, to his mind, depended upon appreciating early whether or not the animal was seriously ill and, if so, promptly applying appropriate treatment.

He was afraid that, in the case of the rabbits mentioned by Mr. Downham, which had died after castration, there must have been some gross contamination, probably by the knife with which the operation had been performed.

Professor Gaiger had asked why they took any trouble over omentum present in the hernial sac. The only reason was that, when twisted, a sac containing omentum became extremely bulky, often thicker than one's finger and, after removal, left a prominent lump in the animal's groin.

Regarding the apparent complete immunity of the pig's peritoneum to dirt, he quite agreed with Professor Gaiger. He had had many discussions as to whether or not the trouble taken in spaying cats was necessary. His (Professor Wright's) experience showed that if they did not sterilise the instruments by boiling, extensive necrosis of the wound almost invariably occurred. The animal did not die of a peritonitis *per se*, but from extensive necrosis of the wound.

He understood that tincture of iodine had no antiseptic action unless applied to a dry surface; for this reason, after washing the skin, they removed all excess water, applied alcohol liberally, allowed it to evaporate, and finally applied tincture of iodine.

In conclusion, Professor Wright expressed his great gratitude to Professor Gaiger for his kindly references to the paper, and also for the suggestion that he should be again invited to address the Lancashire Association. If his effort had proved acceptable to the Association, he would be only too pleased to exert it again.

"MINIATURE WHIPSNADE" PROPOSED FOR BELFAST

A proposal to enlarge the "Zoo" at Bellevue Gardens, Belfast, and transform them into a miniature Whipsnade was the subject of a Home Office inquiry in the City Hall, Belfast, on November 28th, when the Belfast City Council applied for sanction to borrow £8,000 for the purpose of laying out the zoological gardens.

There was an objection by the Ulster Society for the Prevention of Cruelty to Animals on the ground that it was wrong to keep wild animals in captivity; but the case for the Corporation was supported by expert witnesses such as Dr. G. M. Vevers, Superintendent of the Zoological Society, London, who has control of the animals at Whipsnade, and who spoke of the high educational value of a zoological collection, and Dr. B. B. Ferrar, Secretary-Superintendent of the Royal Zoological Society, Dublin, who agreed that "Belfast was lucky in having such a suitable site."

The inquiry was conducted by Rear-Admiral Archdale, C.B.E., one of the Ministry's inspectors, who, when the hearing had concluded, announced that the decision would be given in due course.

The Veterinary Record

December 23rd, 1933.

A Merry Christmas to all our Readers

SMALL-ANIMAL SURGERY AND SURGERIES

WE published in our issue of last week an admirable paper presented, by Mr. L. A. Auchterlonie, to the Derbyshire Division, in which this gentleman reviews the organisation of veterinary establishments, particularly as concerns the consulting room, surgery and pharmacy and all that pertains thereto. It is a progressive sign of the times that members of the veterinary profession are at last bestowing a considerable amount of thought, and no small expenditure, upon the construction and furnishing of their premises.

Twenty years ago, when the mainstays of most practices were the horse and the various farm animals, there was actually little necessity for an elaborate operating room replete with every surgical convenience, as when operations had to be performed the work was mostly executed upon the farm premises of clients. In those days the specialisation in small-animal surgery had hardly seriously commenced, except in a few notable instances.

To-day, however, the veterinary surgeon is expected to possess a very considerable knowledge of canine and feline diseases, and is faced with an exacting public which demands, of our graduates, the highest skill and the most modern equipment.

We think we may truthfully affirm that every increasing public requirement has been adequately met by our members; yet, should this statement appear to be in conflict with some alleged experiences of the laity, it is still necessary to point out that veterinarians (perhaps unwittingly) specialise in different branches of their art. As illustrating this point, it would manifestly be unwise to expect a veterinary surgeon, whose practice lay almost wholly among farmers, to be so conversant with canine or feline diseases as would another practitioner whose life's work was spent entirely in a populous or residential city where these animals abound. Conversely, the canine practitioner would generally be uninterested in diseases of

horses, cattle, or sheep; and doubtless would not even possess a set of slings.

Thus, the very nature and situation of a practice must determine, in a large measure, the kind of service required of a practitioner, and this in turn decides the type of equipment and premises to be provided.

Those veterinary surgeons who are called upon, and who profess, to treat the small animals, are almost morally bound to provide every facility not only for the skilful and scientific performance of their work but also for the comfort and well being of their patients.

The unimpressive pharmacies which, years ago, were exalted by the name of surgeries, have in large measure been supplanted by well-lighted, capacious and hygienic rooms, furnished with a well-designed operating table, instrument cabinets, sterilisers, and other items peculiar to well-equipped operating rooms, not forgetting a white glazed sink and ample running water.

A few of our members have even installed (at considerable cost) apparatus for the production of X-rays, ultra-violet and infra-red rays, radiant heat and artificial sunlight. The practical result is that whereas formerly a general practitioner did not feel capable of undertaking major operations on the dog or cat, he now does so with the utmost confidence, and has developed—with the advancing years—a real surgical inclination.

One has only to read Professor Wright's excellent paper entitled "Every-day Surgery in Small-animal Practice" (reproduced in this issue) to find his almost opening remark was to the effect that in operations upon healthy animals, 100 per cent. success is the only permissible aim, and that it is by no means an impossible one. Professor Wright took to task those veterinary surgeons who were in the habit of stating that in private practice they had no facilities for carrying out abdominal surgery. He said he entirely disagreed with such views and thought that the necessity for surgical interference was so frequently encountered that he failed to see how a practice could be carried on without it.

We concur heartily with those sentiments and consider it is the bounden duty of all who style themselves canine practitioners to be prepared for every eventuality.

The operating theatres of our veterinary colleges are models of utility and cleanliness, and any member who contemplates the reconstruction of old premises would be well advised first to visit them.

We are certain that the display of imposing premises and adequate surgical and medical equipment is not only a boon to the practitioner, but an enterprise from which he can hope to reap a full measure of benefit.

Clinical Reports

PERVIOUS URACHUS WITH UMBILICAL INFECTION

M. W. HOLLAND, M.R.C.V.S.
Athy, Co. Kildare

Case I. *Subject.*—Thorough-bred colt foal, twelve days old—a good strong foal and own brother to a well-known National Hunt winner. The day after the foal arrived at the stud with its dam the groom noticed it to be stiff and the urine discharging through the navel.

On examination I found the foal lame on the near hind leg, the stifle and hock joints of which were enlarged. The temperature was 103·5° F.

Treatment.—I washed the navel thoroughly with H_2O_2 solution, curetted and inserted a tobacco pouch suture around the opening, painting with tincture of iodine. Joint-ill serum (50 c.cs.) was administered daily for five days.

On the second day, the swelling appeared in the opposite stifle.

After the fifth day the original lameness and swelling had disappeared, but continued for some days further in the off hind. I applied a mild stimulating liniment daily to the affected joints. The urine was passed normally. In three weeks the foal was quite sound.

Case II. *Subject.*—Draught colt foal, aged 17 days.

This foal was unable to get up without help. The owner had noticed it from birth passing the urine through the navel, and about five days previous to my seeing the animal swelling of the joints and lameness had started. The temperature was 104·5° F., the foal very dull and constipated.

I found the navel to be in a very dirty condition, and cleansed it with peroxide solution, curetting an suturing as in Case No. 1. The knee joints, fetlocks, hocks and stifles were all enlarged. I administered 100 c.c. joint-ill serum and gave one ounce liq. paraffin and rectal enemata.

I did not consider the foal would live, and advised the owner to have it lifted up frequently to suck. The enlarged joints were bandaged where possible and rubbed daily, and as the weather was good it was helped out to the sunshine. I met the owner sometime afterwards and he informed me that the foal was perfect.

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JOINT INFECTION IN A CALF

M. W. HOLLAND, M.R.C.V.S.
Athy, Co. Kildare

Subject.—Shorthorn heifer calf, aged 14 days. The knee and fetlock joints were enlarged and

she was very lame. The temperature was 105° F. I administered 50 c.c. joint-ill serum daily for four days, when the temperature had fallen to 103·5°. Lameness was very marked, particularly in the near front fetlock, which had one or two applications of "antiphlogistine," followed by painting with tincture of iodine. The calf improved in every way except for the continued swelling in one fetlock joint, which eventually became so enlarged and painful that I punctured it with a hypodermic needle, withdrew about 5 c.c. oily pus, and injected 5 c.c. collosal sodium morrhuate into the joint. For days after it swelled considerably more and became much more painful. The swelling and lameness gradually decreased and in a fortnight the joint was normal.

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JOHNE'S DISEASE IN SHEEP

DONALD JOHNSTON, M.R.C.V.S., D.V.S.M.
County Veterinary Officer, East Sussex

I was recently asked to give an opinion on the cause of losses in a flock of Southdown ewes in this district.

The symptoms shown were emaciation with scouring, œdematous swelling in the submaxillary region and pallid mucous membranes.

Worm infestation was suspected, a ewe was killed and the abomasum and contents examined for the presence of worms. Not enough worms were found to account for the symptoms, so the intestines were next examined. Here the change was striking. The mucous membrane of the small intestine was intensely thickened and corrugated, the thickening extending into the large intestine also. The mesenteric lymphatic glands were enlarged to about the size of a hazel nut, very hard to cut and ivory white on section. The stomach and intestines were full of a frothy ingesta.

A smear made from the mucous membrane of small intestine showed enormous numbers of acid-fast bacilli.

Several cases of Johne's disease in cattle have occurred on this farm, but these sheep have been running on the South Downs in the day and folded on roots at night. The only possible contact with cattle-infected ground occurred in February and March, after lambing, when the sheep were running for a short while on pasture on which there had been infected cattle twelve months previously.

Twenty-one ewes have been similarly affected since February, and the nine ewes at present showing symptoms have only been noticed and isolated since the Autumn Sheep Fair on September 28th.

Abstracts

[**Red-water in Cattle: "Todorit" in Curative Treatment.** (Trans. title.) Rajcevic, M., and Butozan, W. (1933). *Deuts. tierärztl. Wschr.*, *41*, 31, 485-487.]

Redwater causes rather considerable losses among cattle and sheep in Yugo-slavia. The authors of the paper under review, who are on the staff of the veterinary faculty in the Royal University of Zagreb, report that nearly all observations hitherto have incriminated *Piroplasma* (*Babesia*) *bovis* (="*divergens*"), the causal organism of European bovine redwater, with the disease locally in cattle, and *P. ovis* with the sheep disease. In some southerly districts of the country, however, *P. bigeminum*, the larger piroplasm, which is the cause of bovine tropical redwater (Texas fever), has been recognised (Colak, 1924). In the disease—almost invariably a severe one when it affects adult cattle—caused by the *bigeminum* type of piroplasm, chemotherapy, *i.e.*, the search for a chemical that will have a maximally toxic effect upon the parasite and a minimally toxic one of the host, has yielded perhaps its most striking success, in the discovery of trypan blue (and certain newer chemical derivatives such as "pirosan"), the effects of which may be described as almost magical after it has been injected into a beast that has commenced to show high fever. This drug, unfortunately, produces no such effect upon the course of the infection (usually a much milder one) caused by the *bovis* type of piroplasm. As the authors rightly observe, almost every worker who has carried out research upon the problem of its treatment has reported upon the use of some different drug.

The English reader, the reviewer thinks, will recall a valuable paper published, in 1917, by our colleague, Mr. G. H. Gibbings, of Tavistock, Devon, in conjunction with the late Sir Stewart Stockman, upon the attempted treatment of natural cases by intravenous injections of tartar emetic. While the detailed records they give do not yield on analysis any convincing testimony as to the efficacy of the method, the stipulation which they lay down at the commencement of their paper is worthy of repetition here in assessing the real value of any method of treatment in this disease. It is that "having regard to the fact that many cases of English redwater recover in the absence of treatment by drugs, it is not easy to assign an accurate value to any form of treatment, even when very large numbers of cases have been examined in the clinical sense."

In practice, attempts at treatment usually resolve themselves into administration of some

simple remedies intended to correct the digestive and circulatory disturbances which are prominent symptoms in this disease and do not in any way envisage an attack upon the problem from a chemotherapeutic standpoint.

For some years, Rajcevic and Butozan endeavoured to carry out treatment, however, along this latter line, by administering intravenously massive doses of trypan blue, which of all the medicaments available at the time, seemed to give the best results. However, the method was not without its dangers and disadvantages, accruing from the risk of escape of the drug into the perivascular tissues and from the discolouration of the milk and flesh of the animal.

Then, in 1929, the authors chanced upon a proprietary preparation, "Todorit," placed upon the market by a firm (Kastel) of manufacturing druggists in Zagreb. The claims made for this drug were that (1) it produced no discolouration; (2) it need not be injected intravenously; (3) a single dose, of 2·0 c.c. per cwt. body weight, injected intramuscularly, destroyed the piroplasms present in the red blood cells, and (4) the most acute cases recovered in a short time.

For their trials upon this drug, the authors selected cases that were showing definitely a high temperature and blood-stained urine. Hæmatological examinations were undertaken, in the majority of the animals, both before and after treatment. They give details of eight representative cases, from what they state to have been a wealth of material. In all but one of the eight cases the blood picture and clinical condition showed considerable improvement within 24 hours after injection, followed by clearing of the urine and complete recovery within a week. On the bodies of some of these animals, numerous ticks (*Ixodes ricinus*, the vector of *Piroplasma bovis*) were found. The one case recorded in which treatment was not successful was a four-year-old cow suffering from advanced redwater, with very marked anæmia (under two million red cells per c.mm.), jaundiced mucous membranes, hæmoglobin-stained milk, and paresis. The history of the case shows, the authors contend, how important it is for animals to be brought under treatment as early as possible in the course of the disease. If affected animals come late under treatment, when the red cell count has sunk very low, they afterwards for the most part succumb.

After the injection of "Todorit," there is a marked increase in the leucocyte count. In the blood picture of the disease, there is noticeable among the anæmic changes a relative increase in the lymphocytes, and decrease in the neutrophiles, together with a "shift to the left" in the so-called Arneth index.

Untoward sequelæ from excessive dosage with the drug were not observed, wherefrom it would seem that there is little to fear from over-estimating the weight of the animal in calculating the dose for injection, which can thus be introduced within a few seconds in the presence of a diagnosed case of infection. Very rarely, a small swelling appears at the seat of injection, which has gone by the next day.

According to the British trade announcement now before the reviewer, the drug is chemically a highly complex organic compound of bismuth, of stated formula, introduced into therapy by Vajda.

On analogy with the experiences of workers with redwater caused by the other type of proplasm—the *bigeminum* type—the efficacy of the above drug, in the mind of the reviewer, ought to be easily determinable, where "clean" cattle are available, in experimental conditions; dependence upon the action of trypan blue in *bigeminum* infection has long reached such a stage of confidence that, for example, young cattle intended for export into endemic territories are immunised by injecting them with the highly virulent blood of *bigeminum* carriers, and promptly controlling any alarming symptoms afterwards by timely injections of trypan blue. In like manner, with a drug that is surely efficacious against the *bovis* type of infection, timely injection of artificially infected cattle in an experimental trial ought to prevent the severe disease which would supervene in simultaneously injected control animals and guide the observer in ascertaining the real merits of the drug. The difficulties of assessing results from observation of naturally infected clinical cases of this type of infection have been already commented upon. The results recorded by Rajcevic and Butozan, who are obviously experienced workers on piroplasmosis, are, as clinical evidence, most promising in favour of the drug the efficacy of which they have explored; if their conclusions can be corroborated further by experimental evidence, then, when properly administered by the hands of skilled veterinary surgeons, a great boon will have been conferred upon stock raisers in redwater districts.

J. T. E.

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[Studies on Bovine Mastitis. VIII. The Control of Chronic Streptococcus Mastitis. Minett, F. C., Stableforth, A. W., and Edwards, S. J. (1933). *J. Comp. Path. and Therap., 46,* 131-138. (9 refs.)]

This article is concerned with the control of the chronic form of streptococcus mastitis, which is widely prevalent among milking cows. The bacteria which produce this form have been designated by the authors Group I mastitis streptococci and they are to be distinguished from two other groups of streptococci (II and III) which are sometimes, though comparatively rarely, responsible for mastitis in cows. The

clinical effects of these less common streptococci upon the udder have been described in a previous paper of this series of publications.

There are good grounds for believing that the common chronic form of mastitis is contagious and is spread by the practice of indiscriminate milking. In accordance with this assumption the milking of infected cows last has been frequently recommended as a means of controlling the disease. This is advocated with the proviso that proper steps are taken to pick out every infected cow in a herd. Although a number of workers are endeavouring to control the disease in this way, up to the present there has been no decisive proof that chronic streptococcus mastitis can be eliminated from a herd by separating infected cows and having them milked last. Since 1929, one of the main objects of the authors' work has been to find out to what extent it is possible to control the disease in this way. For this purpose, investigations have been carried out in seven herds comprising at the start some 550 cows. The observations now reported relate to one of these herds, *viz.*, Herd B. This is made up of pedigree animals of the Red Poll breed. It was formed in 1914, and has been built up almost entirely from its own stock and during the five years' period of observation, from June, 1928, only four animals have been purchased. The history suggests remarkable freedom from tuberculosis and contagious abortion, though no complete herd tests have been carried out. Milking has always been by hand and the men are instructed to wash their hands before milking each cow. Every precaution has also been taken with the milking of cows suspected of udder disease. When first examined in June, 1928, the herd consisted of 53 adult females (cows in milk, dry cows and heifers due to calve). Milk samples were available from 49 of these animals from June to December, 1928, and of these ten were found to be infected. Two other infected cows were located later. During the first two years the infected cows were allowed to stay on the same premises but were milked last. Subsequently, the few infected cows which remained were moved to separate premises. Between January, 1929, and June, 1933, milk samples from the individual quarters of the "clean" cows were examined culturally on 17 occasions at intervals of three to five months. Since the beginning of 1930, Group I streptococci have not been found in the milk of a single cow.

It is of interest to note that five of the originally infected cows which were under observation for the longest time appeared to have made a complete recovery. It was also noted that the absence of Group I streptococci did not bring about the disappearance of udder troubles. During the period under review a number of cases of mastitis occurred which were due to streptococci of Groups II and III, as well as cases due to *C. pyogenes, Bact. coli,* and *F. necrophorus.*

The advantages of assembling a group of cows such as those in Herd B are pointed out. One of the advantages is that opportunity is afforded of studying without confusion the other forms of mastitis to which cows are liable.

The authors hold that the events in Herd B provide for the first time the final proof that chronic streptococcus mastitis is a strictly contagious disease, in the same way that bovine tuberculosis, contagious abortion and Johne's disease are generally accepted to be. Theoretically, therefore, the disease is preventable.

F. C. M.

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[The Treatment of Milk Fever and Grass Tetany by the Intravenous Infusion of a Solution containing Calcium and Magnesium Chlorides. Pulles, H. A. *Tierärztl. Rundschau,* No. 14, Ap. 2, 33, pp. 224-227.]

The method comprises the injection of the following mixture into the milk vein:—

Calcii chlorat. cryst. pur. ...	30·0 grams
Magnesii chlorat. pur. ...	80·0 grams
Aq. dest. ad	250·0 c.cs.

The salts are first dissolved in the distilled water and the mixture filtered. It is then sterilised by boiling and put into sterile containers for use when required.

The author, who has obtained satisfactory results in over one hundred cases, is of the opinion that insufflation of the udder with air is rapidly becoming "a back number." Cures by the new method are more rapid and certain and the technique is free of risk, the possible setting up of mastitis being out of the question. Relapses are rare but a second injection is, in these instances, usually successful.

Magnesium chloride is included not because it is known to be of any value but, as it is harmless, the same preparation can be used for the treatment of grass tetany.

Two cases are described to show the efficacy of the treatment. Both were completely comatose when injected. One was standing and drinking water ten minutes later and the other, which was in a similar condition, recovered in 20 minutes and walked into the byre.

The second disease for which the above treatment is recommended is that described by Sjollema as grass tetany, since, although its ætiology is as yet unknown, it appears to be associated with the eating of grass at certain times of the year and on certain pastures. It occurs most frequently in spring when the cows, having been housed indoors all winter, are turned out. It is often the best milkers which are affected, three to twelve weeks after calving. The blood in these instances is not only deficient in calcium but also in magnesium.

The author recognises acute, subacute and chronic forms of the disease, the symptoms of which are described in full. In acute cases there may be a sudden and complete cessation of milk production. The subacute form may last for several days before symptoms of tetany develop, the animal being restless, as if on heat, in the meantime. The chronic form exhibits little else than progressive emaciation and may last for weeks or months. *Post-mortem* shows enlargement and degeneration of the liver.

Discussing the treatment in a general manner, Pulles emphasises the necessity of first examining the heart and, in the event of its being affected, of increasing the time of infusion from four or five to ten minutes. Prognosis is always more satisfactory when the injection is carried out before tetanic symptoms develop.

[" On calcium chloride treatment of milk fever," *vide* this journal, October 28th, 1933. Little and Mattick.]

N. S. B.

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[The Occurrence of Grass Tetany in Animals kept Permanently Indoors and Fed on Sewage-Farm Grass. Schlichting. *Tierärztliche Rundschau.* (1933). *39,* No. 25.]

The general opinion with regard to grass tetany to-day appears to be that this condition does not occur in animals kept indoors. Its association with pastures has in many instances been so marked as to earn it the name of " meadow tetany."

The details given by Schlichting refer to a herd, belonging to a Berlin dairy, which is kept permanently indoors under rather poor sanitary conditions.

From May to October the cows received daily 30 Kg. of freshly-cut grass from a sewage farm in the suburbs of the city, together with some bran and brewer's grain but no hay or straw.

Each spring, before being let, the meadows are continuously irrigated and the luxuriant grass is mown four or five times between May and October.

Eighteen typical cases of grass tetany occurred during the three years under review: nine in June, six in July, two in August, and one in October. These occurred from several weeks to several months after calving.

The symptoms and *post-mortem* findings are given in detail, as well as the chemical composition of the grass.

N. S. B.

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[Types of Fœtal Dystokia in Cattle. Wyssmann, E. *Schweiz. Archiv f. Tierhlk.* (1933). *75,* No. 6.]

The author has compiled statistics from his practice showing the types of malpresentation of calf fœtuses encountered. He also quotes from the records of others, but as they all differ widely the figures below cannot be taken as universally indicative, *e.g.,* for text-book purposes.

Four sets of quoted figures indicating dorso-pubic presentation (calf on its back) are given: they are—once in 400, five times in 243, none in 1,432, and seven in 383 births. In 1,000 births Jöhnk found anterior malpresentations in 100 cases and posterior malpresentations in 68 cases.

Wyssmann encountered malpresentations in 49 of 807 cases of dystocia, of which 15 were dorso-pubic and 25 were lateral presentations. Of 128 twin births nine showed malpresentation (five dorso-pubic and four lateral).

It is interesting to note that of the above 49 cases of single births, only eight were from primiparæ. Further details relating to sex, mortality, etc., are given in the original.

J. E.

H.M. STATIONERY OFFICE PUBLICATIONS.

The undermentioned have been published recently. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office, at the following addresses: London: Adastral House, Kingsway, W.C.2, and 28, Abingdon Street, S.W.1; Cardiff: 1, St. Andrew's Crescent; Manchester: York Street; Edinburgh: 120, George Street.

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1124. Animal, England and Wales. Licensing of Bulls (Application to England and Wales) Order, dated November 30th, 1933	0	1	0	1½

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FREE STATE CATTLE DISEASE RETURNS

Returns furnished to the Department of Agriculture, Irish Free State, show that in the period from January 1st to November 30th, 1933, the number of outbreaks of sheep scab in Saorstat Eireann totalled 21, as compared with 140 in the corresponding period last year. During the period January 1st to November 30th, 1933, there were 33 outbreaks of swine fever, the total number of animals slaughtered as diseased or suspected being 476, as against 110 outbreaks and 1,445 animals slaughtered in the corresponding period of last year.

Reports

KENYA COLONY AND PROTECTORATE

Animal Industry

REPORT OF THE DEPUTY DIRECTOR (ANIMAL INDUSTRY) AND CHIEF VETERINARY OFFICER, 1932.

This report, presented by Major H. H. Brassey-Edwards, M.R.C.V.S., covers all branches of the Animal Industry and is divided into the following sections: (*a*) Veterinary Administrative and Executive—(i) Settled Areas, (ii) Native Reserves; (*b*) Veterinary Research; (*c*) Animal Husbandry—(i) The Live Stock Industry, (ii) Experimental and Investigational Work at Government Farm, Nairasha (in collaboration with Rowett Research Institute, Aberdeen). It is unfortunate that the report is presented as part of the general report of the Agricultural Department, instead of as a separate report, as in other Colonies. It is also to be regretted that it has been considerably curtailed "on grounds of economy." Where valuable scientific knowledge has been acquired it is surely worth the small cost of publication, and in the reviewer's opinion, it is "false economy" to suppress it. As the Deputy Director points out, "The live stock industry is an integral part of the development of this Colony, particularly on the native side, and this industry should not be permitted to remain in its present position. At this time, it is most desirable that the public should be persuaded of the paramount importance of all matters pertaining to the pastoral industry, since it is important that expressed ideas of policy should be directed towards developing and retaining confidence in the industry as a whole." And yet his report is considerably curtailed on grounds of economy. We have read similar protests concerning the Veterinary Reports from other Colonies, and we hope that in future the valuable scientific observations of our confrères overseas will be given fuller recognition and the publicity they deserve.

It is pleasing to note that the efforts of the Department have met with some measure of success, and that the solvency of the live stock industry of the Colony generally has been maintained. The production of animal products continues to increase in volume, and certain decreases in imports can, no doubt, be attributed to the fact that the Colony is now self-supporting in all the major articles of diet.

On the other hand, in comparison with the period 1930-31, the disease position was unfavourable during the year under review, and an increase in the number of outbreaks is reported. This is chiefly due to unauthorised movements of native stock, assisted by the presence of large numbers of squatter stock in the settled areas. An increase in the number of outbreaks of rinderpest is recorded, and an extensive outbreak of rabies, affecting canines and small carnivora, has caused much anxiety. Tick-borne disease in bovines has increased to a great extent in the settled areas, and again epizoötic and ulcerative lymphangitis in equines are more prevalent. Foot-and-mouth disease in a mild form, and anthrax, are reported from most of the native reserves. Horse-sickness, blackquarter and swine fever, however, have decreased in prevalence.

With regard to rinderpest, we are told that an advance has been made in the methods of control. Vaccine *plus* virus inoculation has been tried out in the field to a small extent, but the method is regarded as still in the experimental stage. 139,058 double inoculations were carried out in the native reserves and settled areas, during the year. Contagious bovine pleuropneumonia continues to be one of the most important and serious problems confronting the Department, particularly in the Northern Frontier and Masia Provinces. It is hoped that a vaccination campaign may be carried out in the near future. East Coast fever in the non-endemic areas is causing considerable anxiety, and there is a definite increase in the number of outbreaks recorded. This unsatisfactory position may be attributed to illicit movements of cattle and failure to observe the disease at its onset. Sterility is becoming a problem of great importance and an increasing burden on the live stock industry. Contagious bovine abortion, vaginitis, and diseases of the ovaries and fallopian tubes are known to exist to a wide extent, in addition to various nutritional deficiencies. Reports and tables are given showing the incidence of disease in the various districts. Some of these reports contain interesting information easily overlooked by the casual reader. For example, in the report from Kajiado District, we are told that the rinderpest campaign which was instituted in June, 1931, was continued, one dose of field-prepared vaccine being used to confer a temporary immunity on those susceptible stock exposed to infection. Three hundred and ninety-one head were slaughtered for the production of approximately 676,000 c.c. of vaccine, which allowed for an average dose of 35 c.c. per head. A total of 19,322 head were vaccinated in 27 outbreaks. "It may be assumed that there is no appreciable variation in the quality of the vaccine, which is prepared from the pooled spleens of reacting animals. The vaccine does not confer immunity for at least ten days after inoculation, and rinderpest may be deliberately introduced or naturally contracted during that period. A

mild reaction usually occurs in those vaccinated stock which develop rinderpest. It is probable that a mild reaction without clinical symptoms other than a rise in temperature may occur in vaccinated stock exposed to infection. This, while doubtless enhancing the immunity, means that apparently normal stock may be reacting and be infective while reacting. The degree of immunity has diminished three months after vaccination, and seven or eight months after vaccination stock may be considered to be wholly susceptible." The reports from other districts also contain similar observations of practical importance, which, unfortunately, cannot be adequately dealt with in the space at our disposal.

On the retirement of Mr. J. Walker, O.B.E., M.R.C.V.S., Chief Veterinary Research Officer, Mr. R. Daubney, M.SC., M.R.C.V.S., was appointed Acting and later Chief Veterinary Research Officer, the Report relating to research being contributed by him. The early part of his report relates to correspondence, the laboratory farm, buildings and plant, finance, live stock, technical routine and laboratory products. Under the heading "Research," further interesting information concerning the rinderpest vaccine is supplied. It records the fact that 2,000 doses were shipped in cold storage to Shanghai, the results on arrival being so satisfactory that the firm carrying out the tests proposes to rely entirely upon the vaccine for protection against rinderpest in the future. Attempts to "type" various strains of foot-and-mouth disease are described. The disease known as "Rift Valley fever" was investigated and a paper relating to it contributed by Daubney and Hudson appeared in *The Lancet*, Vol. 222, pp. 611-612. This disease presents certain analogies with yellow fever, to which it is closely related. The histo-pathology of horse-sickness was studied by Mr. Fotheringham, and the behaviour of the virus when inoculated into the nervous system of mice, described by Nieschultz and Alexander, with a view to determining whether a virus fixed in mice may prove of value in the immunisation of horses, was studied. Rabies, contagious bovine pleuro-pneumonia and respiratory diseases of sheep, were investigated. Hæmorrhagic septicæmia, causing the death of 27 head of young cattle, spread over a period of ten days, was diagnosed. Five days after treatment of the whole herd with a killed vaccine cases ceased to occur, but it is uncertain whether the cessation was due to the vaccine or natural causes.

Mr. Hudson continued his collection of poisonous plants and Dr. Lewis his work on tick-distribution. Mr. Swynnerton visited the Colony and gave advice on tsetse-fly problems.

Mr. J. Anderson carried out investigations in connection with the alpha hormone, and the presence of anterior pituitary hormones in the urine of pregnant cows; the seasonal incidence of matings in native cattle; and the effect of adrenalin upon milk yield in the goat.

Greater efforts have been made in certain native pastoral reserves to instruct and demonstrate better methods of producing ghee, in order that the native may obtain a high-class product for market; and considerable progress appears to have been made in this and other directions.

The report serves to emphasise the importance of veterinary science in the development of a pastoral country such as Kenya where the native pastoral areas and reserves comprise approximately 100,000,000 acres grazed by twelve million head of stock.

Ll. E. W. B.

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CITY OF SALFORD VETERINARY DEPARTMENT

REPORT FOR THE YEAR 1932

This Report, which was published recently, gives much information as to the various duties of a City Veterinary Officer, and Mr. Alexander is to be congratulated on a highly satisfactory year's work.

There were very few outbreaks of notifiable disease during the year, but a good deal of work of a preventive nature has been carried out.

As in the previous year, the City was free from foot-and-mouth disease and at no time was it included in an infected area.

Five suspected cases of anthrax were reported in cattle which had died either in lairs or during transit, but investigation failed to confirm the presence of the disease.

One cow only was found affected with tuberculosis of the udder, and only one case of parasitic mange occurred.

It is interesting to note that during the year 43 ships were visited in accordance with the Importation of Dogs and Cats Order, 1928. It is not generally realised that Salford, although an inland City, is a Port of quite considerable size and importance.

Twelve outbreaks of swine fever, necessitating the destruction of 89 carcasses, occurred in one of the slaughter houses.

The Veterinary Officer issued 1,011 licences authorising the movement of 14,176 cattle and 26,498 sheep under the Importation of Animals Act, 1922. On three occasions it was found necessary to take proceedings on account of contraventions of the conditions contained in the licences.

Regular visits were paid to cattle lairs and piggeries, the conditions found being satisfactory.

Salford being an important distributing centre,

special care is paid to the cleansing and disinfection of cattle trucks and pens. Cattle trucks to the number of 14,633 were cleansed and disinfected during the year and much attention was given to road vehicles used for the carriage of animals and also to the records of stock movement.

Visits numbering 2,788 were paid to slaughterhouses and 30,423 carcasses were inspected, comprising 2,234 cattle, 11,686 sheep and 16,503 pigs.

One large firm introduced electric stunning for pigs during the year, and the Veterinary Officer states that the carcasses dealt with in this manner are definitely superior to those on which the captive bolt pistol has been used.

Six hundred and eight-five inspections of retail meat shops were carried out, and it is satisfactory to note that no legal proceedings were deemed necessary, although on a few occasions small quantities of unsound meat were seized.

Premises used for the preparation of meat products were also regularly visited and, except for minor complaints, the general conduct was satisfactory.

A large part of the report is taken up with the important matter of the milk supply. The number of persons registered as retail purveyors of milk increased by 45, but the explanation is to be found in the increase in the sale of bottled milk in shops of the mixed business variety. It is an unsatisfactory feature of dairy legislation that bottled milk can be sold from any type of shop and registration of the premises is not necessary, the person only being called upon to register.

Twenty-five dairies were removed from the register during the year as they were considered unsuitable for the sale of loose milk, and it is evident that the distribution of milk is receiving particular attention in Salford.

Another important side of this work—the sterilisation of milk bottles—received extra supervision. It is quite obvious that any care used in the production and storage of milk would be wasted if distribution took place through the medium of contaminated utensils.

The percentage of samples infected with tubercle bacilli is given as 7·7, but as this figure is based on total samples (including "Certified," "Grade A (T.T.)" and "Pasteurised" milks) the actual rate is 8·02 per cent. Reference is made also to the use of two guinea-pigs for the biological examination of milk, and the Veterinary Officer points out that as many as 43 per cent. of the tuberculous samples would have been missed if only one guinea-pig had been used. There is no doubt whatever that uniformity throughout the country, in matters such as the presentation of statistics and the laboratory methods used, should be aimed at, the figures usually given being of little value for comparative purposes.

Forty-eight licences for the different grades of milk were issued under the Milk (Special Designations) Order, 1923, but the amount of graded milk sold is practically negligible.

The question of milk which is heat treated in accordance with the process laid down in the Milk (Special Designations) Order, 1923, but is not licensed, is mentioned and there will be general agreement with the suggestion made that all heat treatment of milk should be controlled and carried out in a prescribed manner.

The milk supply of the Corporation Institutions is either Pasteurised or Grade A, the latter from two farms whose contracts have been renewed since 1929, the milk having been very satisfactory. In addition to supervision on the farm, this milk is sampled on delivery, and of 30 samples examined for bacterial content, only one failed to attain the prescribed standard in that *Bacillus coli* was present in 1/100 c.c.

Regarding the pasteurised milk supplied, 31 out of 33 samples examined complied with the legal standard of 100,000 bacteria per c.c., whilst the other two were below 150,000 per c.c.

Altogether a very interesting report, set out in a comprehensive and lucid manner.

R. C. L.

SHEEP SCAB IN NORTH OF ENGLAND

A scheme is afoot for the erection of a fence over three miles long over the boundary between Cumberland and Westmorland on the west side of the Pennine Range. Recently many hundreds of sheep on the Westmorland "heafs" have been affected by scab, and a double dipping Order is in operation in the county. Although Cumberland is not yet seriously affected it is felt that the parasitic disease may spread to the more northerly "heafs," as they are mostly all open fell, and thus would follow inevitably high cost, inconvenience, and irritation of double dipping regulations. It is felt that it is only a question of time before the Ministry of Agriculture will insist on a sheep-proof fence as a restrictive boundary, and a committee has been appointed to work out details. It is proposed to finance the work by subscriptions from the farmers themselves.

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BRITISH ASSOCIATION: 1934 MEETING

The annual meeting of the British Association will be held next year in Aberdeen from September 5th to 12th under the presidency of Sir William Hardy, F.R.S. The following are among the sectional presidents appointed:—

Section D (Zoology), Dr. E. S. Russell; Section H (Anthropology), Captain T. A. Joyce; Section I (Physiology), Professor H. E. Roaf; Section J (Psychology), Dr. Shepherd Dawson; Section K (Botany), Professor A. W. Borthwick; Section M (Agriculture), Professor J. A. S. Watson.

The President of the Conference of Delegates of Corresponding Societies will be Colonel Sir Henry Lyons, F.R.S.

Reviews

Kelser, R. A., d.v.m., a.m., ph.d. [Officer in Charge, Vet. Division, U.S. Army School.] (1933.) *Manual of Veterinary Bacteriology.* 2nd Edition. 6×9½. pp. ix-552. [93 figs.] London: Baillière, Tindall and Cox. [27s. 6d.]

The author is to be congratulated on his efforts to keep this work up to date and the second edition, the subject of this review, now makes its appearance six years after the first.

The classification of bacteria adopted by Bergey and his collaborators has been continued and to those acquainted with the American classification no difficulty will arise.

The general lay-out of the book is the same as in the first edition, and while paragraphs considered redundant have been deleted, others have been added, increasing the number of parts by one and the chapters by six. There is ample evidence that the work has been carefully checked and in many instances re-written. For example, in Chapter IX there has been an enlargement of the part dealing with theories of infection and immunity which is much improved thereby. A wider and more comprehensive reference is made in Chapter XXX of the diphtheroid organisms and *Vibrio fetus.*

In discussing the tuberculin test the author, basing his remarks on results obtained in America, considers that the intradermal test is the most reliable, but no mention is made of the double intradermal method as used to a large extent in this country.

Perhaps the chapter (XLIV) which deals with viruses is most outstanding in regard to additions and improvements, for there are descriptions of ten additional virus diseases, none of which appeared in the first edition. These include such familiar conditions as Borna disease, louping-ill, laryngo-tracheitis of fowls, infectious myxomatosis of rabbits, psittacosis, etc. The greatest space is, as in the previous edition, given to the subject of rabies.

Part V (Chapters XII-XXXIII) is devoted, as formerly, to "Pathogenic Organisms of the Class Schizomycetes," but has been rearranged and enlarged. Similarly, the chapter dealing with Hæmatology (XLVI), has also been enlarged.

The section dealing with B.C.G. vaccination is disappointing. Actually it amounts to a brief and not altogether complete summary occupying a space of only 15 lines. We think this subject might, with advantage, have been given greater prominence.

The publication part of this book, in so far as the actual printing is concerned, is good and the subject matter is easily read. The binding is pleasing to the eye, but we should like to express the hope that it will stand up to the wear and tear of large and much used libraries better than the first edition.

* * * * *

Index Veterinarius. 1933. Vol. I. No. 1. Imperial Bureau of Animal Health, Weybridge, England. Annual volume in quarterly numbers. Price £4 per volume.

Of recent years the output of scientific articles has increased to such an extent that it has become exceedingly difficult for workers in veterinary and contemporary science to remain cognizant of all the advances which are being made. The publication of various abstract journals is of considerable assistance, but it is evident that on account of limitations in the available space, these journals are restricted to a résumé of the more important articles comprising a relatively small proportion of all the papers which are published. The *Index Medicus,* by providing a complete list of all contributions which have a bearing on the science of medicine in its widest sense, has made available the requisite information on this subject and has thus ensured a ready means of reference to articles which for some reason or other have not been noted in the abstracting journals.

It has become increasingly apparent that there is an urgent need for an index of a similar nature dealing with publications relating to veterinary research, and the Imperial Bureau of Animal Health is, therefore, to be congratulated on its enterprise in meeting this want by the issue of an *Index Veterinarius.* The Bureau announce their intention of publishing the Index in quarterly numbers, each part dealing with the indexing undertaken during the previous quarter of the year. Articles are classified both under authors' names and under their appropriate subject heading, and details are given of the year of publication, full title in the language of origin with an English translation of languages other than French and German, volume, pages and other relevant details. Subject references are divided into suitable subheadings arranged alphabetically, *e.g.,* swine fever is considered under the following divisions: general, "carriers," control, diagnosis, immunisation and virus.

In view of the wide field which it covers, the Index should make a strong appeal to all who are interested in veterinary science. The only serious criticism which can be offered concerns the form in which the Index is presented and it must be regarded as singularly unfortunate that for a work of this importance it has been necessary to prepare the volumes on a Gestetner duplicator. This has resulted in a distinctly bulky publication—the first number runs into 304 pages—which is not easy to handle. It is much to be hoped that the demand for the Index will enable the editors to consider the issue of a printed volume.

N.V.M.A. Divisional Report

LANCASHIRE VETERINARY MEDICAL ASSOCIATION*

MEETING AT LIVERPOOL

A General Meeting of the Lancashire Veterinary Medical Association was held in the Surgery Theatre, Medical School, Liverpool University, on Wednesday, October 25th, 1933, at 2.30 p.m.

The Chair was occupied by the President, Mr. T. Wilson, other members present being Messrs. J. Holroyd, A. B. Mattinson, H. Sumner, Junr., P. T. Lindsay, J. H. Gillespie, G. Mayall, A. J. Wright, A. L. Bragg, S. H. Gaiger, G. O. Davies, H. T. Matthews, R. S. White, J. H. White, W. Woods, H. R. Hewetson, F. A. Ball, W. Tweed, C. T. Trevers, K. D. Downham, R. H. Oddy, A. W. Noel Pillers, C. W. Hargreaves, C. W. Pembrey, W. Fowle, G. H. Locke, and A. L. Mullen (Hon. Secretary).

Apologies for unavoidable absence were received from Messrs. J. O. Powley, A. B. Kerr, J. H. Wright, J. Adamson, Junr., E. H. Curbishley, H. Holroyd, H. G. Hewetson and R. C. Locke.

A large number of senior students of the School of Veterinary Science, Liverpool University, attended the meeting.

The minutes of the previous meeting were taken as read.

Paper.—The President then called upon Professor J. G. Wright, F.R.C.V.S., of the Royal Veterinary College, London, forthwith to read his paper, entitled "Every-day Surgery in Small-animal Practice." [Professor Wright's paper, and a report of the discussion which followed its presentation, are reproduced at the commencement of this issue.—Ed., *V.R.*]

The President said there was no doubt that it would make a good discussion, and as Professor Wright's time was limited they did not wish to curtail it in any way. Further items on the agenda would be postponed until after the address.

Obituary.—Mr. J. Holroyd drew attention to the death of Mr. W. Ackroyd, Halifax, and of Mr. R. Hopps, Liverpool, since the last meeting. The President called upon the members to signify their sympathy in the usual way.

Correspondence.—Correspondence was read by the Hon. Secretary from Messrs. G. Ellis (Glossop), A. B. Minor (Manchester), and J. Norbury (Knutsford) notifying their intention of resigning from the Association. These resignations were accepted with regret.

Letters from the N.V.M.A., in connection with veterinary surgeons attending accident cases, were referred to the Council.

It was decided to circularise the members of the Association as to the fees charged for distemper immunisation, in response to a request made by the N.V.M.A.

A letter received from the Organising Committee N.V.M.A., in connection with the erection of an R.S.P.C.A. hospital in Liverpool, was considered. It was resolved that the matter be referred to the Council of the Division and afterwards submitted to a general meeting of the Division for approval.

The Secretary made a request for clinical material for *The Veterinary Record.*

Nomination as Members.—Messrs. T. A. Lloyd Jones and E. A. Comer (proposed by the Hon. Secretary) also Mr. E. P. Shallcross (proposed by Mr. F. A. Ball) were nominated for membership.

Nomination as Office-bearers.—The President referred to the election of Office-bearers. It was proposed that the following be nominated: President, Mr. J. Holroyd, Blackburn; Hon. Treasurer, Mr. A. W. Noel Pillers; Hon. Secretary, Mr. A. L. Mullen; Council, Messrs. E. H. Curbishley, G. O. Davies, A. B. Kerr, R. C. Locke, Professor S. H. Gaiger, Messrs. H. T. Matthews, R. H. Oddy, C. F. Shawcross, G. C. Webster, J. Spruell and H. Sumner, Junr., Mr. H. R. Hewetson (nominated by Mr. A. W. Noel Pillers).

The President asked for further nominations to be sent in at an early date.

Milk Reorganisation Report (Special Meeting).—It was proposed by Mr. J. Holroyd, seconded by Professor S. H. Gaiger, and unanimously agreed that a special meeting be held, prior to the December meeting, to consider the minutes of the special meeting held in Liverpool in May, concerning the N.V.M.A. letter in connection with various recommendations contained in the Report of the Reorganisation Commission for Milk.

Pathological Specimens

Mr. A. J. Wright, M.R.C.V.S. (Macclesfield) submitted an interesting pathological specimen. The lesion was a growth affecting one eye showing involvement of the other eye within a a period of four days and exhibiting a tendency to extremely rapid development. Examination of the specimen by an eye specialist was being carried out. The specialist was of the opinion that it was of a sarcomatous nature. The case was a remarkable one in that development was so rapid.

Mr. G. O. Davies, M.V.Sc., M.R.C.V.S., D.V.H. (Liverpool University), mentioned another specimen, which, he explained, had been sent to him

* Received for publication November 21st.

by Mr. Caldwell of Newcastle. It consisted of the spleen of an aged collie dog, in which there was a lesion about the size of a football. Details sent with the specimen were that the subject was an aged collie, which had enjoyed excellent health until about a week before, when the dog commenced to lose all energy, and had a poor appetite. There were no lesions in any of the other organs. The swelling was so pronounced that it could be detected swaying from one side of the abdomen to the other as the dog walked. The lesion weighed five and a half pounds. A cursory examination of sections at the time seemed to suggest that the lesion was a hæmatoma.

Mr. Tweed gave particulars of a calf, in the neck of which, before it had been slaughtered, a swelling had been noticed. After slaughter it was discovered that the calf's heart was actually in a pouch in its neck. The first two ribs were quite wide apart, and the calf, with its heart in its neck, was apparently healthy. He did not know whether any other veterinary practitioner had had experience of a similar case.

The President replied that there had been a similar case while he had been at the Veterinary College in Edinburgh. The calf concerned had been there for at least two years. Its heart could be seen beating at the lower part of the neck, in front of the brisket. The case was certainly a rather unusual one.

Votes of Thanks.—Mr. Sumner proposed a hearty vote of thanks to Professor Wright, not only for his kindness in having visited and addressed them in such an interesting and informative manner, but also for the ready way in which he had agreed to Professor Gaiger's suggestion that at some further time he should return and address the Association again.

Mr. Pillers, in complimentary terms, seconded Mr. Sumner's proposal.

Mr. Holroyd proposed a cordial vote of thanks to the University Authorities for having granted facilities for the meeting. Mr. Pillers seconded and associated with the proposition the President of the Association for his conduct in the chair.

A. L. Mullen, *Hon. Secretary.*

ARMY VETERINARY SERVICE

Promotion Examinations

It is notified in an Army Order that the periods of Military History selected for the year 1935 for the examination for promotion of Majors of the Royal Army Veterinary Corps are as follow:—

Majors, Royal Army Veterinary Corps, in Subhead (k) (ix), for promotion.—"The Veterinary Services in France and Belgium," as described in the Official History of the War, Veterinary Services, Chapters IX, XXV, XXVII, XXVIII and XXXI.

Obituary

HUGH COOPER

1896-1933

AN APPRECIATION

(Contributed)

The death of Hugh Cooper, recorded in your issue of last week, cuts short in its prime a promising and useful life. For India, the country in which he had chosen to spend his professional career, this loss must be regarded as a tragic one, for by temperament and bearing he was eminently attuned to that environment, and the large experience which he had been steadily gaining in the problems of animal pathology peculiar to that country would have been of inestimable value when it was duly placed on record in his more mature years from the massive collection of documents and personal knowledge which he had accumulated on the subject during a period of ten years' well-directed industry. The circumstances of his death display the reactions of a gallant nature to the consciousness of a slowly impending doom, the precise outcome of which was clear beyond doubt to his mind by the knowledge gained in his own expert calling.

Born at Hampstead, on September 13th, 1896, the youngest child of the late Mr. C. H. and of Mrs. Cooper, he was educated at Broadoak School, Northwood, and then at Uppingham School, from which he entered the Royal Veterinary College in 1913. He served his pupilage with Mr. F. T. Trewin, of Watford. He qualified in 1917, after winning the Walley Memorial Prize of the R.C.V.S., entered the R.A.V.C. during the War, and saw service in Mesopotamia. After demobilisation, he went into veterinary practice for a short time, and then returned to the Royal Veterinary College, early in 1920, as a research assistant in the Department of Research in Animal Pathology, soon afterwards becoming Sir John M'Fadyean's Demonstrator in Pathology. He also lectured in protozoology. Towards the end of 1921, he was appointed to the post of Pathologist on the staff of the Imperial Bacteriological Laboratory (now the Imperial Institute of Veterinary Research), Muktesar-Kumaon, U.P., India. He took on his duties there after a short visit for special training to Sir Arnold Theiler's laboratory in South Africa, where he seems to have caught a good deal of that master's zeal for research. At the time of his death, he had spent ten years, as has been said, in actual service, not counting leave periods, at the Muktesar laboratory.

If a selection had to be made of his most important contributions during this period to the advancement of knowledge in veterinary pathology, perhaps the most outstanding would be his extensive and careful survey of the nature

CAPTAIN HUGH COOPER, M.R.C.V.S.

and distribution of bovine coccidiosis and piroplasmosis and the resuscitation of latent forms of these infections during intercurrent attacks of rinderpest. There were several other problems that he had gone far to elucidate from among the wealth of material that lay awaiting investigation, notably, for example, pseudo-fowl plague (ranikhet disease), fowl Spirochætosis, glanders, rinderpest in goats, Johne's disease, surra, and bovine theileriasis. It was fully expected that in the normal course of events he would have survived to place on record the masses of evidence which he and other colleagues had gathered round such problems.

His real service to the study and diffusion of knowledge upon animal pathology in India cannot, however, be estimated, even approximately, by his achievements in specialised pieces of large research, important though many of these were. At the Institute, he developed a large and varied routine and advisory pathological side, which was of incalculable benefit to the civil and military veterinary services in the field. His replies to enquiries were invariably characterised by courtesy, helpfulness, precision in diagnosis, and soundness in prognosis. Further, in the classes of training at Muktesar for various grades of veterinary officers in India, including the two years' courses started by the Government of India for the education of Indians in India to the highest standard, he took a prominent part, and his practical teachings will long be remembered by veterinary officers now scattered in responsible positions throughout the sub-continent.

In that isolated hill station his social qualities were an immense asset. Kind, gentle, unfailingly generous and hospitable, he was the friend of everyone: the intimate companion of his European colleagues, he was beloved and trusted by all grades of Indians; these he encouraged at their work, listened to sympathetically in their difficulties, and fired with enthusiasm in their games. He was a sincere lover of animals.

Soon after his marriage to Miss Janet Beazley in India, in April, 1931, he came home to England on ordinary leave combined with a prolonged period of study leave, which he arranged to spend at Professor Buxton's Research Institute in Animal Pathology at Cambridge, where he was to resume contact with his early friends then on the staff there. He was due to return to his work in India at the beginning of the cold weather season, in the autumn of 1932.

There supervened, however, at this stage in his career, when his future seemed secure and full of bright prospects, one of those unexpected tragedies that seem to fall with special malignity upon those whose minds are fully enlightened as to their fate by the special culture acquired in their avocation and cannot obtain relief in the succour afforded by easy illusion. Characteristically, he faced this position with unwavering courage, betraying till the last no signs of anguish or exhaustion of his ample reserves of sane judgment. Instead, he was coolly solicitous not to inflict his personal sufferings on his friends and relations. At one stage during the course of treatment phenomenal success was achieved; indeed, so remarkable was the improvement in Hugh Cooper's condition that in May, 1933, he was passed fit to return to India, whither he proceeded, accompanied by his wife and young son, overjoyed at regaining a glimpse of the gorgeous Himalayan scenery surrounding his Indian home and getting back to the scenes of his former happy labours. It was not long, however, before the trouble recurred and in July he returned back to England once more. Deeply grateful as he was for all candid advice, he became reconciled to his doom and gallantly met it. The writer now learns that throughout his affliction Cooper kept methodically a daily record of his condition, believing that it might be of some scientific use afterwards. The record is in the custody of the Mount Vernon Hospital. This attitude towards his condition was, it must be felt, a singularly heroic and objective one, but it had no trace of morbidity or callousness about it. His spirit was naturally deeply sensitive and courageous. He who was seen to run unarmed shouting after a panther to rescue his pet bull-terrier from its jaws was not a subject whom familiarity with disease processes and the experimental method had hardened. Rather it seems to have endued him all the more strongly with the calm that pertains to a human caste—that to which he belonged—which holds that in the face of dire personal adversity, certain things, display of subjective emotion among them, are just "not done."

X-RAY DEVELOPMENTS

One of the world's smallest X-ray apparatus, an instrument weighing only 7 lb., but capable of taking perfect photographs in two seconds, was exhibited by Dr. A. Bouwers, of Eindthoven, who delivered the sixteenth Sylvanus Thompson Memorial Lecture on "Modern X-ray Developments," at the Congress of the British Institute of Radiology.

In X-ray therapy, he said, much had been achieved in the direction of simplification, reproduceability of dose, and protection. A very sensitive device of dose measurement proved to be the Geiger counter, so far used exclusively for other radiation.

* * * * *

The slippery state of certain roads in the district was mentioned at the annual meeting of the Nuneaton F.U., and it was resolved to ask the Warwickshire Executive to take the matter up with the county road authorities. Mr. J. Sizen, who described the roads as "just like a ballroom floor," said he had to give up his early morning delivery of 24 gallons of milk because it was impossible to travel with a horse.

ROYAL COLLEGE OF VETERINARY SURGEONS

Membership Examination, December, 1933

LIST OF SUCCESSFUL CANDIDATES

Dublin.

Class A.

Crilly, Wm. Doyle, L. F.

Class B.

Doherty, A. D. Redmond, P. G.
O'Donnell, Edmond.

Class C.

Finucane, Michael. Keatinge, G. A.
Herlihy, Michael. Stewart, D. M.
Hirtes, R. E. O'Neill, D. N.

Class D.

Allen, D. J. M.

Glasgow.

First Year—Five Years' Course

Campbell, D. S. Macbrair, D. S.
Fitzpatrick, M. J. O'Sullivan, J. G.
Galloway, J. D. Robertson, J. M.
Lockhart, D. M. Wilson, A. L.

Four Years' Course

Class B.

Burrows, Wm. Marshall, James.
Captain, S. R. Marshall, John.
Carson, J. M. Peters, Miss J. M.
Cockrill, W. R. Rennix, S. J.
Forrest, Stewart. Shand, Alex.
Gray, W. M. Stewart, J. H.
McIndoe, John. Taylor, R. F.
Marshall, Alex. Williams, F. T.

Class C.

Donaldson, G. S. McGregor, Peter.
Duff, Miss M. G. McLaren, G. G.
Fleming, T. B. Muir, A. H.
Lawson, J. R. Murray, J. G.
McEnhill, Henry. Sweeney, Chas.

Class D.

Harvey, Philip. Weir, A. B.
Slavin, Daniel.

(To be continued.)

IN PARLIAMENT

The following questions and answers have been recorded in the House of Commons recently:—

Horse Lamps

Sir R. Gower asked the Secretary for Mines the number of mines at which the ponies employed below ground have been equipped with electric battery lamps attached to collars or harness worn by them; how many ponies are now carrying these lamps; and whether, as his inspectors report that these lamps are economical and reduce accidents to both ponies and drivers underground, he will consider issuing a regulation to ensure the general use of such lamps?

Mr. E. Brown: During the year ended June 30th, 1933, 472 horse lamps were in use at 29 mines. I hope that colliery owners will give these lamps a trial over a wider area and in larger numbers, and the mines inspectors are using, and will use, their influence to that end, but I should not feel justified at present in proposing to make their general adoption compulsory.

. . . . .

Ridden Horses (Road Margins)

Captain Erskine-Bolst asked the Minister of Transport whether his attention has been called to the recent dismissal of a case at Chester Petty Sessions against two riders for riding horses on the footpath along the side of the road after it had been pointed out that it was the duty of the highway authority, under the Road Traffic Act, to provide adequate margins for riders as well as pedestrians; and whether, in view of the desirability that the existence of this obligation should be generally known, he will consider the issue of a circular drawing attention to the matter?

Mr. Stanley: I was not aware of this particular case, but the attention of highway authorities was drawn in a circular issued by my Department in March, 1931, to the declaration in Section 58 of the Road Traffic Act, 1930, as to the duties of highway authorities with regard to the provision of grass or other margins for the accommodation of ridden horses and driven livestock, as well as of footpaths for the accommodation of foot passengers.

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Light Horse Breeding

Earl of Dalkeith asked the Minister of Agriculture from how many county agricultural societies he has recently received communications urging that the grant for light horse breeding should be restored on adequate lines at an early date; and whether, in view of the decision that this grant is not to be re-transferred to his Department, he will pass on these communications to the War Office authorities?

Mr. Elliot: Since January 1st, 1933, I have received communications with regard to grants for light horse breeding from 16 county agricultural committees, twelve county councils and seven other interested bodies. I will bring these communications to the notice of the War Office as suggested by my Noble Friend.

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Milk (Pasteurisation)

Brigadier-General Clifton Brown asked the Minister of Health whether his attention has been drawn to the report of the Milk Commission as to the condition of some of the smaller pasteurisation plants in the country; whether these plants are periodically inspected; and what steps he is taking to see that safe milk is produced by the pasteurisation processes in use.

Sir H. Young: I am aware of the remarks in the report respecting pasteurisation. Under the law there is no control of the process except in the case of milk which is sold under licence as "pasteurised milk." Establishments so licensed are subject to inspection by the officers of the local authority granting the licence, and it is one of the conditions for a licence that the type of apparatus and the methods employed shall be satisfactory to the authority. An officer of my Department is making general inquiries into the efficiency of plants, and I propose to issue a memorandum for the guidance of local authorities and their officers in their inspection of such plants.

Brigadier-General Brown: May I ask my right hon. Friend if he does not think that the report is right when it says that no milk should be allowed to be sold unless it has been treated by officially controlled processes, does he think that there is any control, and, if there is no control, will he seek to impose some control of these various processes, which in many cases are not safe?

Sir H. Young: I should have notice of a question which obviously requires a considered answer.

Sir Francis Fremantle: Will my right hon. Friend include in his memorandum a suggestion that the veterinary surgeons to be appointed should include this as part of their training and responsibilities, so as to have only one inspector instead of two?

Sir H. Young: I shall be happy to consider my hon. Friend's suggestion.

Mr. Levy: Is my right hon. Friend aware of the fact that a number of these firms cannot obtain certificates and licences for their milk because of the insufficiency of water for cooling purposes?

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

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DIARY OF EVENTS

Jan. 1st, 1934.—N.V.M.A. Committee Meetings, at 2, Verulam Buildings, Gray's Inn, W.C.1.: Appointments, 2 p.m.; Organising, 3.15 p.m.; Veterinary Officers' and Public Health, 4.45 p.m.; Parliamentary, 5.30 p.m.

Jan. 2nd.—Joint Meeting of Parliamentary Committee and Veterinary Officers' and Public Health Committee, at 2, Verulam Buildings, Gray's Inn, W.C.1, 10 a.m.
N.V.M.A. Council Meeting, at Conway Hall, Red Lion Square, W.C.1, at 2.30 p.m.

Jan. 3rd, 1934.—R.C.V.S. Committee Meetings.

Jan. 4th.—Ditto.

Jan. 4th.—Victoria Veterinary Benevolent Fund Council Meeting.

Jan. 5th.—R.C.V.S. Council and Committee Meetings.

Jan. 8th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.

July 30th-Aug. 3rd, 1934.—National Veterinary Medical Association Congress, Edinburgh.

Aug. 13th-18th, 1934.—Twelfth International Veterinary Congress, New York.

PERSONAL

Presentation to N.V.M.A. President

Blairgowrie Agriculturists Honour Mr. W. Nairn

The Dundee Courier of December 16th reports that a large company gathered in the Queen's Hotel, Blairgowrie, on the evening of the previous day, when at a complimentary dinner, Mr. W. Nairn, M.R.C.V.S., was presented with an inscribed "Encyclopædia Britannica," a Cromwellian clock, and a cheque, as a tangible recognition of the valuable services he had rendered to the subscribers during the 30 years of his sojourn in the district, and to mark his presidency of the National Veterinary Medical Association of Great Britain and Ireland.

The presentation, to which over 350 farmers and others had subscribed, was made by Mr. J. M. Hodge, Convener of Perthshire, who in doing so said that there was only one defect in Mr. Nairn—he was not born in Blairgowrie. (Laughter.) He had, however, revealed his insight and shrewdness by marrying a Blairgowrie lady. Mr. Nairn was born in the Lothians and bred on a farm there, where he was prepared for the profession he was to follow. He studied at the Royal (Dick) Veterinary College, Edinburgh, where he was the most brilliant student of his year, sharing honours with another distinguished man, the late Mr. Montgomery, who was veterinary adviser to the Colonial Office. (Applause.)

Mr. Hodge went on to refer to the work Mr. Nairn had devoted to grass sickness research, and in this had been associated with notable authorities such as Professor Gaiger and Dr. Harry Dryerre the notable bio-chemist at the Animal Diseases Research Institute, Edinburgh. Dr. Dryerre was a son of a Blairgowrie journalist, the late Mr. H. Dryerre.

Mr. Nairn had been a governor of the Edinburgh and East of Scotland College of Agriculture, a governor of the Royal (Dick) Veterinary College, and a member of the research committee of the Animal Diseases Research Institute.

He was elected in 1929 to the council of the Royal College of Veterinary Surgeons, and two months ago had been appointed president of the National Veterinary Medical Association of Great Britain and Ireland. (Applause.)

He had brought great care, attention, and skill to bear on his work for the past 30 years, and he was glad to tell them that Mr. Nairn had decided to remain among them. (Applause.)

Mr. Hodge then called upon Mr. Nairn to accept the "Encyclopædia Britannica," the cheque, and the brass Cromwellian clock, the latter for the "joint ownership" of Mrs. Nairn and Mr. Nairn. They recognised that Mr. Nairn owed a great deal of his success to his wife, to whom they were grateful, on occasions when Mr. Nairn was away, for veterinary advice. (Laughter and applause.)

Mr. Nairn, in reply, said he knew of no other district which provided people of such natural kindliness and hospitality as Blairgowrie. Recalling some of his 30 years' experiences, he dealt with the changes in the district since he first new it.

Alluding to grass sickness, he said the line of investigation now adopted in grass disease research made him happier with regard to the outcome than he had been for the past 15 years. (Applause.)

Mr. D. J. R. Bell, the Balloch, Alyth, proposed

"The Veterinary Profession," and Major J. Gilray M'Gregor, M.R.C.V.S., Stirling, acknowledged.

Replying to "Animal Diseases Research," sponsored by Major Bruges, Laighwood, Dunkeld, Dr. Russell Greig, of the Animal Diseases Research Institute of Scotland, said he had hopes of breaking down yet another lock to the door which guarded the secret of grass disease.

Other toasts were submitted, in felicitous terms, and the enjoyment of the gathering was enhanced by music and song.

Mr. J. W. Young, Solicitor, Blairgowrie, Secretary of the Presentation Committee, at the outset intimated a number of apologies, which included those from Lord Scone and a number of veterinary authorities.

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Retirement of Dr. Gerald Leighton

Lieut.-Colonel Gerald Leighton, O.B.E., Foods Medical Officer of the Department of Health for Scotland, retired from the public service on December 12th under the age-limit rule. Colonel Leighton's retirement breaks an unusually distinguished record of public service.

In 1903 he succeeded Sir Stewart Stockman as Professor of Pathology and Meat Inspection at the Royal (Dick) Veterinary College, Edinburgh. In 1913, after ten years at the Royal Veterinary College, he was invited by the Government to take service with the Local Government Board for Scotland, with the express object of establishing a uniform system and standard of meat inspection. This work was interrupted by the War, at the outbreak of which Colonel Leighton was appointed Inspector of Food Contracts for the War Office and Admiralty, a post which he held till 1920.

After the War Colonel Leighton resumed the work which he started in 1913, and following his report on the subject the Public Health (Meat Inspection) Regulations came into force in 1924, and Scotland became the only part of Great Britain having legal standards of meat inspection. "Colonel Leighton's initiative here and his assiduous supervision throughout the country has raised the quality and standard of meat inspection in Scotland to a pre-eminent position among the nations," says a Scottish paper.

"Apart from this work, Colonel Leighton has served on many Government Committees, including the Committee on Preservatives in Foods, and he was instrumental in introducing the system of milk grading in Scotland. On the subject of milk and meat and the measures necessary to ensure their purity for food purposes Colonel Leighton not only is recognised as the leading authority in Scotland but enjoys also an international reputation.

"In recent years Colonel Leighton has had charge of the two important investigations into the effect of adding a milk ration to the diet of school children. The Lanarkshire investigation embraced 20,000 children. His last investigation was into milk consumption in Scotland, the result of which is expected to be published shortly."

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Retirement of R.S.P.C.A. Secretary

After nearly 30 years' service as chief Secretary of the Royal Society for the Prevention of Cruelty to Animals, Captain E. G. Fairholme has resigned his post, and the Council have appointed Captain Fergus MacCunn, who is the Assistant Secretary and has been connected with the work of the Society for 22 years, as chief Secretary from the beginning of 1934. During the War Captain Fairholme was appointed Hon. Secretary of the Royal Society for the Prevention of Cruelty to Animals Fund for Sick and Wounded Horses. Nearly £200,000 was collected, and in 1919 he was created an Officer of the Order of the British Empire, in addition to which he possesses the 1915 Star and the Allied War and Victory Medals.

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Appointment.—The Public Health Committee of Aberdeen Town Council has unanimously appointed Mr. George Howie, chief veterinary officer for Aberdeenshire, to the post of chief veterinary officer under the regional veterinary service scheme, which embraces the city and county of Aberdeen. Mr. Howie qualified as a member of the Royal College of Veterinary Surgeons in 1916 with distinction, and became a Fellow of the College in 1921. Before becoming chief veterinary officer for Aberdeenshire in 1926, he was for three years advisor in veterinary science to the Armstrong College, Newcastle-on-Tyne.

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Breed Society Appointment.—Major W. F. Aston, of Shrewsbury, has been appointed veterinary inspector for Shropshire to the Hunters' Improvement and National Light Horse Breeders' Society.

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Will.—Drabble, Major Charles, M.R.C.V.S., of Bradford (net personalty £522), £4,815.

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VETERINARY INSPECTION IN HEREFORD AND COUNTY

The future constitution of the county veterinary staff, consequent upon the appointment of Mr. R. Wooff as county veterinary officer for Middlesex, has been discussed recently by the Herefordshire Diseases of Animals Committee and the Hereford City Council, who pay a proportion of the officer's salary in recognition of services rendered to the city.

At the meeting of the Committee on December 6th a lengthy report by a special sub-committee, reviewing the whole position and suggesting alternative schemes, was examined.

There were 25,000 dairy cattle to be inspected, and the sub-committee were of opinion that the committee should make up its mind as to whether these cattle should be inspected once, twice or three times a year, it being remembered that four times a year was suggested as the ideal.

The committee were generally of opinion that the estimated cost if one officer was appointed at £600 a year and part-time officers were employed would be as follows: Inspection once a year, £1,250 per annum; twice a year, £1,850; three times a year, £2,500.

It was suggested that if the inspection was once a year only a staff of two full-time veterinary officers would not be required. If two officers could carry out the work carried out by Mr. Wooff and do two inspections a year the cost would be £1,750 a year, of which £1,200 would be chargeable to the general county rate. If three officers could carry out the work of three inspections a year with the other duties the cost would be approximately £2,250, of which £1,700 would be chargeable to the general county rate. In all these cases it had been assumed that if there was a single veterinary officer a salary of £600 per annum would be paid, and that in any other case there would be a chief veterinary officer at £700 per annum, with an assistant at £400 per annum.

One Officer Proposed

The report was presented by the Chairman, and an amendment was moved by Alderman Cresswell to the effect that a veterinary officer should be appointed to succeed Mr. Wooff at a salary of £600 per annum. He also suggested that the sub-committee should go carefully into the question of examining the possibilities of the officer's work being relieved by the county laboratory staff.

The Chairman expressed the opinion that it was important that the work should be done thoroughly. If, for instance, the children were safeguarded against being infected by tuberculous milk the county would save the additional cost of inspection. Moreover, Herefordshire was an exporting county, and the cattle which it sold would fetch a higher price if certified as being free from tuberculosis.

Alderman Cave, in seconding Alderman Cresswell's proposition, maintained that it was incorrect to say that Herefordshire was an exporting county—that day was past. It was not a big dairy county, and its farmers wanted to breed something better than milk-producing beasts.

Mr. Watkins, in turn, refuted Alderman Cave's statement, remarking that at the present moment cattle were waiting to be exported to Australia and South America. One veterinary officer could not do the work properly, and a certain amount of additional expenditure would be fully justified.

Mr. Rudge proposed an amendment that a veterinary officer and an assistant should be appointed, he believing that the extra expenditure would be a sound investment.

Dr. Shaw seconded, and, after a reference to the danger of children being supplied with tuberculous milk, suggested that if it was found that the work was not being done satisfactorily by two officers, another officer could be appointed.

Mr. J. R. Barker, M.R.C.V.S., mentioned that at the meeting of the City Council on the previous day a resolution was passed advocating four inspections every year, and the Council were looking to the county to provide such a service.

Mr. Rudge's amendment was lost by seven votes to five, and Alderman Cresswell's proposition was carried by seven votes to five.

Before Alderman Cresswell's proposition was put to the vote, the amount mentioned was reduced to £500 on Dr. E. W. Maples (Clerk to the County Council) pointing out that the Council had fixed the salary at that figure, which could not be altered except by the consent of the Council. It was stated that eight applications had been received for the post, which had already been advertised at that figure.

City Council Debate

Following is a report of the proceedings of the Hereford City Council, to which reference is made above.

The Watch Committee, in the course of their report, stated that it was understood that the National Veterinary Medical Association were of the opinion that the salary of £500 was inadequate, and had refused to advertise the appointment in their paper. Representatives of the City Council had conferred with representatives of the County Council on the question of the appointment of an additional veterinary officer, to carry out the work under the Milk and Dairies Order, and it had been decided to defer consideration of the matter for a period of three months. The committee had agreed to the appointment of Mr. Wooff's successor made by the Diseases of Animals Committee, but had suggested that before it was made the committee should meet to decide the future policy of veterinary inspection of the county. The representatives of the City Council on the Diseases of Animals Committee had, subject to the approval of the City Council, been authorised, if they considered it necessary, to agree to a salary of £600 being offered.

Presenting the report, the Mayor said they all regretted, in a sense, that Mr. Wooff was leaving them, for he had been an excellent officer and had done his duty in a sympathetic and reasonable manner. On the other hand, they were glad to find that he was leaving them in order to better his position, and was going to the richest county in England.

Seconding, Mr. Barker supported the Mayor's remarks, and went on to move an addendum that they represent to the County Council that in the agreement with Mr. Wooff's successor there should be included a clause to the effect that all cows from which milk was supplied to the city should be clinically examined four times a year. He reminded the Council that he had made frequent references to bovine tuberculosis, and said he thought that if the course suggested was adopted they would be going a long way towards solving the problem.

The Mayor, Mr. T. Powell, Dr. Shaw and Alderman Wallis expressed themselves in agreement with Mr. Barker's object.

The Deputy Mayor, however, was doubtful about the extra cost which he believed might be involved. He wondered why, if certain dairymen could keep cattle which were regularly inspected, and could get 1d. per quart more for their milk, every dairyman who kept a herd did not do likewise; and he could not see the force of the Council "spending £1,750 a year to have cows periodically inspected."

Mr. Barker said he could not allow the suggestion of such a figure to go by undisputed. What happened was that the Corporation and County Council employed a whole-time veterinary surgeon, and it was suggested that included in his services, for which the city paid one-fifth of his salary, should be the duties provided for in the proposed clause. There was no question of £1,750 being involved.

The Rev. C. W. de Normanville: Is it not a fact that pasteurisation has the same effect?

Mr. Barker: The answer is "No."

The report, with Mr. Barker's addendum, was adopted.

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SMITHFIELD SUPREME CHAMPION DISQUALIFIED

"Malpractice" on Two Animals

The Council of the Smithfield Club decided, at a private meeting held on Tuesday last, that the Galloway steer Gold Flake, which was awarded the supreme championship at the recent Smithfield Show, and the Galloway steer Mike 5th, the winner of the silver cup offered for the best steer under two years old, were both subjected to malpractice. Both animals are disqualified and the awards made to them have been cancelled.

On the opening day of the Smithfield Show, when the championship was awarded, Gold Flake appeared to be in good condition and made a favourable impression. On the following days, however, it appeared to lose in shapeliness and on the last day of the show the steer was subjected to a veterinary examination. Later it was slaughtered and portions of the carcass were

examined. The experts who conducted this examination were Mr. F. O. L. Walpole, chief veterinary officer of the show; Mr. Basil Walpole, assistant veterinary officer; Sir Frederick Hobday, Principal of the Royal Veterinary College; and Colonel T. Dunlop Young, chief veterinary officer of the City of London. A report was submitted to the stewards of the show, and this report was before the Council of the Smithfield Club on Tuesday.

The evidence of Sir Frederick Hobday, Mr. Walpole and Colonel Young, with regard to Gold Flake, and of Mr. Arthur Gofton and Major A. Douglas concerning Mike 5th was to the effect that some malpractices had taken place with regard to both animals. We understand that lesions were found under the skin showing that some irritant had been injected, which had the effect of giving temporarily a level surface. In accordance with the rules of the Club, therefore, there was no other alternative than to disqualify both animals. Nothing has been done with regard to culpability; that question will be dealt with by the Council at its next meeting on February 8th.

The result of the inquiry has caused much concern among those interested in the exhibition of stock. Great Britain enjoys an unequalled reputation for the excellence of its stock and it is of great importance that this reputation should be upheld.

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CASTOR SEED IN FEEDING STUFFS

Complaints of injurious ingredients, and especially castor bean, having been found in cheap feeding stuffs led to a discussion at a recently-held meeting of the Council of the Royal Agricultural Society, in the course of which a protest was made against the trade practice of allowing a certain percentage of castor seed to be present in feeding stuffs. The Council asked for the enforcement of the existing law and for the prohibition of the sale of feeding stuffs containing castor and other injurious ingredients.

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CATTLE POISONED BY YEW

A valuable herd of cattle on the Torwoodlee Estate, near Galashiels, has been poisoned by eating yew. The herd, numbering about 30, was grazing in a park near Torwoodlee House, the residence of Captain Pringle, and, to enable rabbit shooting to be carried on, the cattle were turned into another park in which yew trees were growing. Most of the herd were affected and twelve have since died.

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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THE ERADICATION OF TUBERCULOSIS

To the Editor of The Veterinary Record.

Sir,—I was indeed glad to see in your editorial of the current *Veterinary Record*, that some one has at last come to the conclusion that the assistance of the *general practitioner* (for generations the "*guide, counsellor and friend*" of the stock owner) should be of the *greatest* value, and a considered (I hope) and concrete opinion enunciated. . . . "That the eradication of bovine tuberculosis is essentially a veterinary problem, and, that *new* methods, based upon *veterinary* science and *practical experience* will have to be devised for dealing with it."

". . . That the *whole profession* will have to be mobilised and organised . . . that *adversity* and *experience* have made them highly efficient."

I am delighted to see that my persistence (many call it something else) in stressing the value of the *general practitioner* appears to be at last bearing fruit, and I sincerely hope that the Joint Committee of the N.V.M.A. *will* devise this new method, and I hope also (and I am by no means the only one), to see, after the January session of the Council, that this has at least been inaugurated.

Is it too much to hope that the editorial was "inspired"?

I have the honour to be, Sir,

Your obedient Servant,

J. W. Hall Masheter.

Ruddle House,

Newnham-on-Severn.

December 17th, 1933.

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THE POSITION OF THE WHOLE-TIME VETERINARY OFFICER

To the Editor of The Veterinary Record.

Sir,—May I, as one who has served as County Veterinary Officer under a Medical Officer of Health, be permitted to take exception to the opinion expressed by Mr. Hall Masheter in his letter appearing in your issue of November 4th. I would have done so earlier, but that I hoped someone else might have taken it up.

Mr. Masheter thinks that we may become "the handmaiden of every miserable Medical Officer of Health because the County Council of Middlesex . . . makes it a *sine qua non* that the (veterinary) officer appointed will act under the supervision and control of the County Medical Officer of Health."

As I happen to have served a long period of office as County Veterinary Inspector in Middlesex, may I say that the relations existing between the M.O.H. and myself were always of the most cordial nature. I was in no way fettered in my actions, but was free to carry out my duties in the manner I believed best. But I was subordinate to the M.O.H., and very glad to be so, for I recognised that my work under the Milk and Dairies (Consolidation) Act and the Milk and Dairies Order was called for only in the interests of the health of human beings.

My advice to young members who seek Municipal and County appointments is not to jib at being placed under the M.O.H. In matters relating to the health of human beings the M.O.H. must be paramount. If the Veterinary Officer knows his job and does it, he need fear no irksome control from the M.O.H.

Yours faithfully,

Sidney Villar.

Grand Hotel,

Eastbourne.

December 16th, 1933.